THE AMERICAN

THE ECONOMIC BASIS

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WAY

OF OUR CIVILIZATION

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To
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PREFACE

The immediate circumstances which led me to write the present volume were somewhat as follows In the winter of 1950 1951 the Institut d Etudes Politiques of the University of Paris invited me to give a course of lectures on American economic history covering primarily the period from the War *between the States to the present I eagerly grasped this op*portunity to indulge my *Wanderlust*, for I was convinced that someone should, and I believed that I could, explain to the French how America has been able to achieve its phenomenal economic success And furthermore I wanted to suggest to them, and to all peoples, that America's remarkable well being per capita should, in line with historical precedent, lead to the establishment of a great civilization

Being a conscientious person in general and in particular sympathetic toward students for all the suffering which they endure, I always prepare my lectures with great care, but for my lectures in Paris I rather overdid myself To make sure that my story would be both well organized and clear and that my French would be better than I alone could make it, I decided to write a book from which I would draw what I wanted to say This I did, but subsequently I had several opportunities to test my first draft and to revise it in the light of the reception which it received Before I was through I had presented my material in French not only to the students of 'Sciences Po," as the Institut is affectionately called

chapter

1

ECONOMICS AND CIVILIZATION

I WELL BEING AS A FACTOR IN CIVILIZATION

If, as in the days of ancient Greece and Rome, it were the style to write great epics of national accomplishments, American poets would have at their disposal a theme which does not have its equal in all history—the achievement of un surpassed economic well being Indeed there has never been a people so abundantly provided with the material things of life as the American people of today

Perhaps it is to be regretted that no poet has attempted to sing the praises of those who came to America's shores and built there an economy which could on a per capita basis out produce any other If some poet had written such a work, foreigners might not be so prone to claim that Americans are crass materialists and lack 'culture," and Americans might lose some of their fear that the foreigners might be right

For both the informed observer, whether he be American or not, there is nothing in having a large supply of goods and services per capita of the population of which one needs to be ashamed Quite the contrary As I have shown elsewhere,[1] peaks of economic well being have accompanied or preceded those periods which are regarded as the peaks of civilization in various cultures Clearly, without leisure which comes from a surplus of goods beyond what is necessary for maintaining

life, man cannot devote his energies to the civilizing process He cannot create great works of literature, architecture, painting, sculpture, or music, he cannot establish orderly societies where the conduct of people conforms to known and just rules, and he cannot extend his control over nature so that he is free from disease and want Also the well informed recognize that the diplomatic and military power of a society depends to a large extent upon its economic potential, and that throughout the past there have always been 'barbarians' on the fringes of civilized cultures ready to attack and pillage the more advanced peoples when they showed signs of weakness

Although other factors, such as styles in art, freedom of expression, the exchange of ideas, and the range of opportunities available to individuals play a vital role in attaining high levels of civilization, the economic factor is clearly of great importance both in attaining great heights and in protecting them So crucial is it, in fact, that the fluctuating—some would say the cyclical—character of civilization within cultures can be explained chiefly in economic terms

Thus as a society devotes more and more of its energy to the creation of the "finer things of life," the lesser proportion can it give to economic activity In this way the economic well being which has made creative endeavor possible is undermined, for in time there is a noticeable decline in the supply of goods and services per capita of the population And this decline is usually hastened by exhausting warfare, a growth of population far in excess of economic development, and by social discontent As the fall in economic well being becomes well advanced, art seems to lose its freshness and vigor and to be characterized by overly ornate forms and crude workmanship, human relations are regulated more and more by force, and disease and want stalk abroad in the land

Even within a culture there are changes in the centers of civilization which may be explained on economic grounds

Thus in Egypt there were shifts from the Lower to the Upper Nile, in the Tigris and Euphrates valley, from Sumer on the Persian Gulf to Babylon which was well inland, and in Greek culture, from the eastern shores of the Aegean to the European mainland In Western European culture, centers have been in Northern Italy, the Low Countries, London, and Paris, and their creative importance has fluctuated roughly with their relative economic importance

If this analysis of human history is correct and if it is legitimate to expect that the general pattern of the past will be repeated in the future, then assuredly America can look with pride upon its economic accomplishments and with hope for great things to come It may well be that the center of gravity in Western culture will shift from Western Europe to North America and that Americans will be the ones to carry on the great civilization of the West At least even the most skeptical will have to admit that America has the economic potential for great accomplishments (see table 1 in the Appendix)

In order to bring to full flowering the degree of civilization of which American economic development has given promise, there must be a nice balance in the use of human and other resources In fact, upon this balance depends very largely whether or not civilization, as we in Western culture understand it, will long endure Enough resources must be employed in economic activity so that there will be perpetuated a high level of well-being per capita of the population, enough in creative activity so that the masterpieces of art may be produced, enough, in extending man's control over nature so that he will not suffer from famine or disease, enough in regulating relations among men so that they constitute an orderly society How this balance can be achieved is perhaps the greatest problem of human kind

II STRATEGIC FACTORS IN AMERICAN ECONOMIC SUCCESS

Whatever the future may hold in store regarding the development of civilization in America, the past holds important lessons pertaining to economic growth In fact, it is not too much to say that the economic history of the United States can be considered as a model of economic progress and that through studying this model and comparing it with others, man can hope to understand more fully the processes by which he can increase his material welfare It is to this study and to this fuller understanding that the pages of this book are devoted

At the very outset, let us look at our model from afar in order to take cognizance of its general form before we examine in detail its individual parts When we take the long view, we are struck immediately by changes which have taken place in the structure of the American economy over time Especially do we notice the shift in relative importance from agriculture to industry and the great expansion of service trades Thus in the decade 1869-1879 20 per cent of national income came from agriculture and only 13 9 was derived from manufacturing, while in 1950 the proportions were 7 2 per cent and 30 7 per cent, respectively Furthermore, in 1850 about 82 per cent of the population was engaged in producing goods and 18 per cent in trade and other services, while in 1950 the two groups were about evenly balanced These shifts are, incidentally, to be found in all economies with high incomes per worker (See tables 2 and 3)

These changes in the structure of the economy suggest some of the basic factors in America's economic growth For example, inasmuch as there has been a large increase in those segments of the economy which are devoted to rendering services and to distributing goods rather than to the production of concrete things, it may be deduced that a greater division of labor, that is, a greater specialization in economic

activity, has contributed to a totality of more goods Clearly America has profited from the fact that individuals have concentrated their energies more and more on what they can produce at lowest, comparable costs and have not attempted to meet their various needs by household, handicraft production Indeed the trend has been for people to get more of the goods which they want in the market with purchasing power obtained from the sale of what they produce

The long view of our model tells us that this form of production and distribution has reached a high point of development in America Although the reasons for this growth are obscured by their great number, it is clear that one of the crucial elements in the process has been the extensive use of money In all advanced economies, money, which may be defined as a measure of value, a medium of exchange, and a store of wealth, has played such an important role that I am ready to defend the proposition that it is one of man's greatest inventions I would rank it, indeed, with fire, the wheel, and the smelting of metals in importance to mankind

Then in addition to the greater division of labor and the exchange of goods for money, we note in our model a progressively larger proportion of national income coming from manufacturing rather than from agriculture, which suggests that special advantages have been derived from the mechanization of productive processes and from the application of power to the machines Gradually the worker has come to have a multitude of "slaves" to do his bidding—"slaves" which could easily be replaced, or added to, or given a holiday without pay And these machines have been for the most part constructed from and activated by inorganic materials which had been stored up by nature in large quantities over eons of time It has been estimated that energy from inanimate sources used in the United States in 1947 was 1,000 times that of human energy expended and this seems like a conservative figure Moreover, the supply of inorganic materials is independent of growing seasons, climatic conditions, and plant

or animal diseases and can be exploited whenever man is ready for them

Fortunately the United States had great natural reservoirs of materials which could be turned into machines or into energy It could draw heavily upon nature's capital—upon the stores of wealth in the earth's crust But in addition America had vast expanses of fertile soil for the production of living things and it had some supplies of organic materials already for use, especially timber and prairie grasses

Besides these concrete things the American people had a strong desire to achieve greater economic well-being In all societies there are overriding ideologies—collective goals for which people strive—which play decisive roles in the determination of human behavior In some cases these goals may be the attainment of heaven, the avoidance of work, or the reproduction of great works of art In Western culture, economic growth has been one of the most important desires of society, at least since the late Middle Ages

In no place in Western culture has this ideology been more marked than in the United States In early colonial days the struggle for physical existence was so vigorous that the concept of economic growth was literally imposed upon settlers and subsequently most of the people who came to America did so in large measure in order to improve their material conditions It is not at all strange that exhortations to thrift and work should have been uttered by American leaders from Captain John Smith to Dwight D Eisenhower, that the maxims of "Poor Richard" should have been given prominence in American thinking, that the success stories of Horatio Alger, John D Rockefeller, and Henry Ford should have caught the imagination of the American people, and that hard work, including manual labor, should have been looked upon with favor Nor is it odd that a society which has so ardently desired economic improvement actually attained it

The American people has wanted economic progress, has sought to understand the conditions of that progress, even as

we are attempting to do here, and has fostered these conditions as much as possible. A good example of the efforts which have been made, and a major feature of our model, has been the high rate of savings out of national income—savings which were effected so that there might be investments in producers' goods which would ultimately result in an increase in the total supply of goods. The American rate of savings has probably been higher over a longer period of time than that in any other contemporary, free society, gross capital formation having fluctuated around 20 per cent of national income since 1869, except for the depression years of the 1930's.

Since this rate of saving was realized when economic growth was taking place, the people could enjoy the standard of living to which they had become accustomed and also save—they could "have their cake and eat it too." This rate of savings and investment was such as to provide American workers with one of the largest investments per capita of any of the major economies and with means for the most effective use of their energies and talents.

Thus, here was a people with good equipment, a desire for material improvement, a rich continent to develop, and a willingness to work. What was more, the country had a large immigration (about 32,000,000 from 1865 to 1930 so that in 1920, 14.5 per cent of the white population was foreign born). For the most part, these people were of productive ages when they arrived on American shores and hence the United States did not have the expense of supporting them through their non productive youth. Moreover, the public health and the age composition of the American population has been favorable to economic development. The control of disease has meant that less time has been lost from illness than in most countries and the low mortality rate in the younger years has meant less of an economic burden from child-rearing.

Then, too, because the United States has had a relatively

large proportion of its population in productive ages, it has not been burdened with an excessive number of young or of dependent old persons To be sure, the trend of the average age of the population is upward, but to a point increasing age is an economic asset, for older, more experienced workers are more skilled and make fewer mistakes than younger ones Only in economies where brawn and daring are of the essence is there an important economic advantage in having a large proportion of young people in the population So far in American history the fears of Malthus, real as they have proved to be in many historical cases, have not come close to being confirmed

In connection with the productivity of labor, economic historians have recently given more weight to incentives to work as a factor in economic growth than was once the practice Here they have shown that because of the wage system workers have had to rely upon current earnings for existence If they did not work, they did not eat And little more than workers in other countries have American workers been able to fall back on agriculture or some form of eco nomically, self sufficient activity to avoid this predicament Furthermore, labor organizations have preached the desirability of the "full dinner pail' through productivity within the capitalist system They have indeed gone on strike for this principle rather than for social betterment by the violent overthrow of the existing system

Furthermore, the training of workers has been relatively efficient, much of it being on the job or in schools where skills are acquired more rapidly than in the traditional appren ticeship system Gradually a much larger proportion of the working population has become more skilled or semi skilled than it was a century ago Education in America has also been designed to contribute heavily to economic progress and it has been made widely available to a large proportion of the population A high correlation exists in America between education and economic position,[2] and America has a larger

percentage of the population in universities than any other country And in the American educational system, conscious efforts are made through courses in management and business to train persons to become leaders in economic enterprise As we shall see later in this volume, a real "managerial revolution" is taking place that is putting the direction of affairs in the hands of experts rather than leaving it to mere owners

Lastly, there are four other strategic factors in American economic growth which need to be before us for the sake of completeness The first of these is that for one reason or another the distribution of purchasing power has been such as to provide a broad demand for goods among all classes rather than being concentrated among a few whose basic desires are soon surfeited This broad demand has, in turn, stimulated entrepreneurs to invest for more production The second factor is that Americans have shown a marked willingness to adopt new products and new methods of production, that is, they have remained relatively free from the restrictions of tradition The third is that they have taken to standardized products in order to have more for what they spend And lastly, they have shown a genius for the organization of business activity in such diverse respects as production on the assembly line, the establishment of banking and credit systems to bring together savings from many sources for use, and the distribution of goods by such low-cost methods as mail-order and chain-store selling

III ACCOMPLISHMENTS IN THE PAST AND DANGERS IN THE FUTURE

Although the economic well being of Americans is common knowledge, relatively few persons realize just how much economic progress has been made and how income per worker in America compares with income per worker in other parts of Western culture The best estimates which we have of the development of the American economy indicate

that national income has increased some fifteen times since the War of Secession and that income per capita has gone up about five times (see table 4 in the appendix)

And even though these increases may be discounted because goods and services paid for a hundred years ago are not strictly comparable to those of the mid twentieth century because of changes in the nation's 'bill of goods," the fact remains that great improvement is indicated in every index of well being that we have—in the quality and quantity of food, clothing, and housing, in the amount of human energy expended in economic endeavor, in public health, and in mortality rates Furthermore, international comparisons show that America has achieved extraordinarily high levels of income per employed worker—about twice that reached in England and seven times that attained in Italy No matter how one looks at it, the American record is impressive

Effective as the various factors of economic growth have been in providing America with its high income, one should not get the impression that they operate automatically or perfectly for the maximum economic benefit Retardative factors there are too, and some of them cast foreboding shadows into the future

For the long run, it should be noted that America has been wasteful of its economic heritage It has cut its forests, and ruined its land to a point where it has destroyed the fertility of whole regions and endangered that of others Even its conservation policies of recent decades are hardly adequate to maintain the status quo and cannot repair the damage of years of wasteful exploitation Similarly the country has been profligate in the handling of mineral resources The better grades of iron ore in the greatest deposit in the country, the Mesabi, have been so nearly used up that the lower grades are coming into use and a large-scale program of imports is being pushed forward Concern is periodically expressed regarding the length of time our oil resources will last, a concern that is partially responsible for the search for and

purchase of petroleum from other areas And the better supplies of gold and silver have either been exhausted or seriously depleted

Fear of shortages of natural resources, as well as a desire for low cost substitutes, has stimulated chemists and physicists to search for replacements Thus far they have had a phenomenal success in producing substitutes for what is becoming in short supply from matter which is abundant in nature Indeed, without the 'chemical revolution' of the last thirty years and without the possibility of a "physics revolution," which through nuclear fision will probably give us a cheap and abundant source of energy, Western culture could look forward to a foreseeable exhaustion of materials essential to its economy How long scientists can postpone the day when inorganic matter can no longer be useful to man except for the growing of animal or vegetable matter is problematical

Another threat to America's economic progress stems from maladjustments within the economy itself Such maladjustments have found expression thus far in what have been called business depressions How serious they are can be realized from the fact that national income fell by a third from 1929 to 1933 and did not surpass its former peak until 1937 The reasons for and nature of the distortions which lead to panic are too complicated to be more than hinted at here Suffice it to say that overexpansion of plant, high costs of goods, pessimism regarding the future, and rigidities in the ways of doing business contribute to the curtailment of economic activity Thus the reasons for depressions are inherent in human decisions, which means that they can be counteracted by alternative decisions In other words, modern business depressions are "man made," and this being the case they can be "man cured" But it remains to be seen whether or not man has the intelligence and the ability to devise and apply the necessary remedies for them

Lastly, there are important domestic, social, and interna-

tional political tensions which may seriously retard American economic progress Among the former, by far the most important is that between employers and employees A belief in an unavoidable conflict of interests between them and the great growth in the power of organized labor have brought on clashes which in turn have led to important work stoppages In 1945, for example, 38,000,000 man-days of idleness were occasioned by labor strife, which logically results in even more idleness because of shortages created by the failure of these men to supply other workers with materials which they normally would have received

Serious as this problem is, it should not, however, be exaggerated The amount of idleness in 1945 resulting from conflicts between employers and employees was less than would have been caused by an added national holiday Furthermore, there is hope for the reduction of labor trouble through orderly channels of negotiation and contract.

In the international political sphere, the threat of war, or actual war, may greatly impede the continuation of American well being Even though production for war purposes may make the statistical record look good, it adds but little to the economic improvement of man Unfortunately production for defense seems essential for the preservation of that independence which will prevent having to pay tribute to others Americans believe that one of the lessons of history is that peoples with the greatest economic well-being have always become the object of the covetousness of others Consequently they feel that they must take ample measures for their own defense and for the defense of those values which constitute Western Civilization In present-day American foreign policy, there is an interesting mixture of nationalism and of *mission civilisatrice*

Also on the American scene there is an interesting mixture of desires for reaching ever higher levels of income per capita and of attaining higher levels of civilization There is a growing awareness that the sheer piling up of goods and serv-

ices is not a satisfactory end in itself and that economic progress is to be justified primarily because it is a necessary condition to the establishment of a more orderly society and to a greater enjoyment of the finer things of life. Thus there is an ever greater desire to know how the extraordinarily high income per capita was achieved in America and what needs to be done to prolong it. As we have already suggested, the story of American economic progress is a worthy theme for an epic poet. But it is also a worthy theme for a social scientist. It is the one which we shall develop in the pages to come.

chapter

2

AMERICAN INDUSTRY AND NATURAL RESOURCES

1 THE PLACE OF INDUSTRY IN ECONOMIC PROGRESS

In attempting to analyze economic growth or any other social phenomenon, there is always a temptation to have recourse to an ultra simplist explanation—to attribute everything to some one cause Thus there have been those who have seen the process of history as the working out of some divine and all powerful Will, as the struggle of the fittest for survival (Darwin and Spencer), as a series of "chal lenges and responses (Arnold Toynbee), or as a struggle between social classes (Karl Marx) In like manner in at tempting to explain economic growth, there is a temptation to attribute all progress solely to natural resources, climate, inventive genius, or thrift Unfortunately any easy solutions to the problem of economic growth are of little scientific or practical value, for they do not provide a full enough under standing to allow the formation and application of those poli cies which will lead to further economic growth Probably the aphorism that there is no easy answer to what is very complex is true

Even though any analysis of growth which is useful in strengthening and continuing the economic foundations of American civilization involves many factors and their coming together in propitious combinations, in just the right magni

tudes, and with favorable timing, the fact remains that some segments of the economy have made greater advances than others and provide the best examples of growth At all events some branch of the economy must be given the honor of priority in our study, and that honor falls to industry It is in industry that we find the most rapid progress in the last hundred years, and it is industry which has achieved the most prominent position in the American economy

Although the rapid development of industry both in America and throughout Western culture is a well known fact, we should here be as precise as possible about it The best measures indicate, as we have already seen, that in the decade 1869-1879 manufacturing accounted for only 13 9 per cent of national income, but that in 1950 it was responsible for 30 7 per cent of that income Indeed, the aggregate manufacturing output of the United States showed an advance of 276 per cent from 1899 to 1937,[1] a change that could not be matched by any other part of the American economy, unless "services of government" be so classified, nor could it be equaled in absolute terms by any other economy The United States accounted for only 23 3 per cent of the world's manufacturing production in 1870, while in the period 1926 1929 it accounted for 42 2 per cent The corresponding percentages in the same years for the United Kingdom were 31 8 and 9 4, for Germany 13 2 and 11 6, and for France 10 3 and 6 6[2]

These gains of American industry are indeed impressive, but what is of particular significance for understanding the contribution of American industry in strengthening the economic foundations upon which our civilization rests is the great increase in output per industrial worker per hour From the year 1870 to the years 1939-1941 this increase was nearly five times and by the latter date exceeded the output per hour of agricultural workers by nearly three times Also, although the American industrial worker had from 1870 onward a larger man hour output than the worker in Great

Britain, by 1937 he was able to turn out almost three times as much as either the British or German industrial employee[3] (see also table 5 in the appendix), and many more times as much as the workers in overpopulated and largely agricultural countries like China

II NATURAL RESOURCES—THE FUEL MINERALS

As in the case of economic growth in general, the progress made in American industry cannot be explained in such naive terms as Yankee ingenuity, Puritanism, or American genius for organization Again we are dealing with a great complex in which the task is to pick out those elements which have been most crucial in effecting change Here we shall select natural resources as the first element for consideration, but this is an entirely arbitrary selection and does not imply that natural resources provided the initial impulse toward industrial growth

Indeed, one should not forget that so-called "natural resources" existed in America for centuries without being of any great economic value and only came into their own when combined with other elements In fact, I believe that it is incorrect to consider things in nature as natural resources in an economic sense until man wants them and has the means of acquiring them Advances in industrial arts *create*, so to speak, natural resources, and natural resources in like manner make industrial arts useful Thus coal was not a natural resource until man could mine and burn it, nor were aluminum, petroleum, iron, and a long list of things natural resources until man knew how to use them Once this happened, however, their presence was of utmost importance

Of the many natural resources which have been crucial in the development of American manufactures, those having the most strategic positions were minerals If some of the earlier stages of man's economic development may be characterized by such appellations as stone age, age of copper,

bronze age, and iron age, then the most recent stage of economic development should be called the mineral age In the case of the United States, for example, the total of mineral production increased from a value of less than one half a billion dollars in 1880 to over fifteen and a half billion dollars (current values) in 1947 Indeed it has been estimated that modern furnaces can produce in one day an amount of iron and steel products equivalent to all the iron and steel in existence in 1750

Of the various minerals, coal has occupied the most strategic position If one studies an economic map of the world, one will be struck by the correlation which exists between industrial centers and areas that either produce coal or can obtain it at low cost Coal made possible the extensive use of the steam engine and later of the steam turbine, of central heating with all that it means in permitting work in cold climates during the winter months, and of metals which have to be smelted Coal was the source of gases, oils, tar, and pitch from which a wide variety of things were derived—from dyes, synthetic rubber, and ammonia to nylon and aspirin And coal, as changed to coke, was the chief source of the essential carbon in steel

Fortunately the United States has had a large production of coal and has an estimated 40 per cent of the world's proved reserves, while Europe has 35 per cent of them and Asia has 20 per cent Yet even though American reserves are enormous, coal will undoubtedly increase in cost as the better seams are worked out and recourse is had to the poorer and harder to mine deposits Already, although the Northern fields of Pennsylvania, Ohio, and Illinois are extremely important, the greatest total production of coal comes from the Southern fields of West Virginia and Kentucky

Three important developments are, however, taking place which augur well for the future of coal The first is that this fuel is being used more efficiently, the amount of coal needed to produce one kilowatt hour of electricity in central stations

falling from 7 05 pounds in 1899 to 1 25 pounds in 1946 The second is that great economies can be realized if coal is processed before it is sold to consumers, that is, if it is turned into oil or coke or even, while still in the ground, into gas The third is that other sources of energy, particularly petro leum, natural gas, and hydroelectric power, are assuming a portion of the burden formerly borne by coal (see tables 6, 7, and 8) Coal consumption per capita in the United States has become about stationary

Of other fuel minerals petroleum has become the most important Petroleum and natural gas (the two are almost insep arable because the latter is obtained almost exclusively in searches for the former) provided respectively 30 and 11 7 per cent of the heat energy used in the United States in 1948 And in this same year Americans, although they constitute only 6 per cent of the population of the world, consumed 60 per cent of the world's petroleum

The petroleum industry is, however, of relatively recent origin It was only in 1859 that the first successful well was driven at Titusville in Pennsylvania and it was as late as 1865 that John D Rockefeller founded his first refining company at Cleveland Yet it met from the beginning an urgent de mand, especially for lighting, and kerosene remained the chief product of the industry until 1910 It was actually the auto mobile which gave petroleum its place in the sun The fact that America has 71 per cent of the automobiles in the world and also is the only advanced industrial country with large resources of petroleum within its borders accounts for the large American consumption

But petroleum has several advantages not possessed by coal, which helps to account for its popularity and extensive use Inasmuch as it is a fluid it can be handled more easily than coal and it can be stored in out of the way places as between the double hulls of ships It is high in heat content per volume and weight and hence can be transported per unit of value more cheaply than coal Lastly it is much cleaner than coal,

and thus appeals particularly to the busy urban dweller who does not want to bother with ashes and hates a dirty cellar

Both petroleum and natural gas have contributed their share to the emancipation of the American economy from the limitations of organic substances, but as in the case of other inorganic substances, these two are limited in supply In 1948 it was estimated that 'proved reserves of petroleum were some 23 billion barrels and 'potential reserves," some 87 billion barrels, which at an annual rate of consumption of 2 billion barrels assure supplies for a very limited period The threat of shortage has led to the securing of supplies overseas, to a policy of conservation, to a more efficient use of fuel, and to technological improvements in refining

Probably the most important of the technological changes is the development of "cracking' that is, the breaking down of crude oil into its component parts by heating it under pressure and in the presence of a catalyst In this fashion more of the desired products are obtained, especially gasoline About 87 per cent of the total process is gasoline, fuel oil, and kerosene Other products are lubricating oils, paraffin, asphalt, toluol (for T N T), butadiene and styrene, solid carbon, and nylon salts Great advances have also been made in prospecting and drilling, in regulating the flow of a well, and in transportation Oil companies have tended to develop into vertical organizations and can thus to some extent control the flow of product to market Incidentally, although concentration of ownership is characteristic of the oil industry except in the matter of wells oil companies have largely given up their early bitter rivalries and have become more responsive to what is socially desirable To remain in business they realize that they must pursue conservationist policies

Then there is another possibility which may relieve the pressure on petroleum and coal supplies and that is the harnessing of energy derived from nuclear fission The amount of energy, both in the form of heat and electricity, which is released when the "atom is split" is enormous, so enormous

indeed that it is said a few pounds of "fuel" would be sufficient to propel a large passenger vessel around the earth But there are serious problems involved in capturing very much of the energy which is released when fission takes place If, however, these problems can be overcome, a new source of energy will become available which will completely change the fuel resource pattern of the world

Up to the present the minerals used in nuclear fission are uranium and thorium, although it may become possible in the future to break down some of the other and more stable elements Fissionable materials are now obtained, so far as the free countries of the world are concerned, primarily from Canada, the Belgian Congo, and India Also, up to 1952, the United States had a head start and presumably a wide lead in the technology of nuclear fission, which probably was an economic advantage Yet it must not be forgotten that priority in techniques sometimes has meant that the originator has had to bear high developmental cost and has soon been outdistanced by others who could profit from the experience already obtained

Inasmuch as the fuel minerals are primarily important for their energy, it is logical to include along with them another source of energy, water power

From the early days of America's industry, water wheels were employed to activate machinery, but these contraptions were victims of whimsies of the weather and their usefulness was restricted to the site of waterfalls It was the development of the electrical industry which brought water power into its own Water power, unlike the mineral fuels, keeps renewing itself and in the form of electricity is highly mobile In fact, electricity from both water power and fuel has played a vital part in recent industrial change, for its great mobility has allowed the decentralization of light industry and the greater use of power by the individual worker whether the carpenter employing an electric drill or the housewife a vacuum cleaner Finally in the form of light it

has greatly extended the effective working day, making it possible to toil around the clock

The electrical industry, like the petroleum industry, is of recent origin It was only in 1879 that Thomas A Edison produced his first successful incandescent lamp and that the dynamo was sufficiently perfected for use in central stations, and it was not until the twentieth century that transformers made possible high tension lines for the transmission over long distances Thenceforth the development of water power grew by leaps and bounds After World War II water power expansion was particularly great, the output having increased by some 36 per cent from 1945 to 1951 Even in 1947 the United States had over 26 per cent of the installed water power of the world or over five times the world average per capita, and there was still room for expansion, less than half of the potential water power having at that time been developed

Much of the recent progress in water power development has been motivated by the high costs of generating electricity by steam and by efforts to control river systems in order to provide better navigation or to prevent soil erosion Among the latter have been the undertakings in the Tennessee Valley, the Mississippi Valley, on the Missouri River, the Columbia River (Grand Coulee and Bonneville Dams), and the Colorado River (Boulder and Imperial Dams) The location of water power, with the Mountain and Pacific states being the largest producers, is such that it provides energy to those regions which are deficient in other forms of power It just so happens that the United States has an almost perfect geographical distribution of energy resources if all forms of power are considered There is not a major area which does not have the ability to capture energy from inorganic sources This means a great reduction in the cost of transporting materials for industry and also that industry can be spread throughout the entire country

III NATURAL RESOURCES—THE BUILDING MINERALS

Indispensable as energy is in modern industrial life, of equal importance are those materials which go into the building of machines and other producers' goods And as inorganic substances practically supplanted organic products as sources of energy because of their efficiency and abundance, so also inorganic matter came to take the place of organic materials in the construction of producers' goods—in those things which turn out goods for consumers Here again man was dipping into nature s capital in order that he might have greater economic well being and a higher degree of civilization

Of all the so-called "building minerals" steel deserves the place of honor Without steel it would have been impossible to have created the machines which constitute our present-day industrial plant or to drive mechanical contrivances at speeds necessary for high production Steel has both strength and toughness, alloys easily, has the ability of returning to its former shape, if bent (within limits) Perhaps it is not an exaggeration to say that one of the major reasons why no former culture was ever able to achieve an industrial revolution comparable to our own was because man was never able to produce steel either cheaply or abundantly In any case steel was just what the doctor ordered for modern industry

In the early history of the industrial revolution in Western Europe one of the important retardative factors was the lack of cheap steel So expensive was it indeed that cast iron had to be used in such things as railroad rails and was always failing at crucial moments because of its brittleness Not until the invention of the Bessemer converter (1855), the development of the Siemens-Martin open hearth process of smelting (1866), and the Thomas-Gilchrist method for smelting phosphoric ores (1878), and the application of these inventions was the price of steel brought down to reasonable levels,

the reduction having been 50 per cent from 1856 to 1870

The United States benefited greatly from these technological advances, introducing the Bessemer process in 1864 and the open hearth in 1868, the latter of these methods ultimately acquiring overwhelming ascendancy. In the course of time further important savings were realized by better coking practices, especially by the use of the Koppers oven, which allows the capture of by-products from the coking process, by the use of the electric furnace for fine grades of steel (beginning in 1900), and by the continuous strip rolling mill, which after its introduction in 1926 allowed a 50 per cent reduction in the price of rolled products.

Important as were these methods of steel making in the general development of industry, the United States enjoyed no particularly important, comparative advantage in respect to them. What superiority America has had in the ferrous metals industry has come largely from abundant natural resources and from their excellent location. The ores of the Mesabi Range in northern Minnesota, which began to be exploited on a large scale in the 1870's, were extraordinarily rich, were mined in open pits at extremely low cost, and were situated close to the Great Lakes and hence to cheap water transportation. These Lake Superior ores, having amounted to date to a mass greater than the total excavations for the Panama Canal, made possible the success of Pittsburgh, Detroit, Gary, Erie, Cleveland, and Chicago as smelting areas. Then in addition to these ores the United States possessed near Birmingham, Alabama, rich ore deposits in close proximity to excellent coking coal, both coal and iron in Utah; iron in Texas which can be smelted with petroleum products and natural gas, and rich ore in both California and Colorado, but no coal.

Thanks to the techniques mentioned and the great natural resources of ore, American production grew by leaps and bounds, steel output increasing 221 times between 1870 and 1948. By 1890 the United States was the greatest producer

of iron and steel, and by 1948 it turned out one-half of the world's supply and about twice as much as any other one nation (See table 9)

Naturally these quantities were exhaustive of America's better supplies The local mines of Pennsylvania were worked out early and even the better ores at Mesabi have been nearly all used up The threat of depletion has led to the search for new national deposits, for methods to make practical the use of low-grade ores, and for foreign supplies Some new deposits have been found within the boundaries of the United States, particularly those already mentioned in the West and Southwest, and the search goes on

Considerable progress has also been made with "hydraulic benefication" of inferior ores, a process in which water is employed to remove a large quantity of the nonmetallic content of the ore By this means it is hoped to render large amounts of low grade ore in the Mesabi and other places economically useful, and the prospects for the realization of this hope seem to be bright Finally, ores are already being obtained, or will soon be obtained, in quantity from foreign areas, especially from Venezuela, Labrador, and Liberia So promising do supplies from oversea regions appear to be that some steel experts expect a shift in the center of the steel industry to the Eastern Seaboard, particularly to the Delaware Bay and Chesapeake Bay areas and to the Gulf of Mexico In any case, the United States is not threatened by a foreseeable shortage of iron ore so long as it can control the seas

Of other building materials, copper is by far the most important, although in both quantity and value it is a poor second to iron and steel Its significance lies primarily in the fact that it is the best low-cost conductor of electricity In fact it came into prominence with the advent of the electrical industry and has expanded with it. In 1880 when electricity was in its infancy, world production of copper was less than

200,000 short tons, but in 1943 at the height of war production it was 3,000,000 tons.

In this great growth the United States played a leading role, becoming the world's largest producer in 1883 and holding that position until the present, although its percentage of world production has declined with the development of output in the Belgian Congo, Rhodesia, Chile, and Canada. Within the United States the shift in centers of production was from Upper Michigan to Arizona and Montana after 1875 and to Utah after 1911.

Although copper is not dissipated in use to the extent that iron and steel are and hence can be employed over and over again, enough is lost and new demands are so great that the exhaustion of reserves is a real threat. In fact, supplies were so low after the outbreak of the Korean War that the free nations began to ration what was available to them—and what was available was so little that many important electrical developments had to be postponed.

Hope for a more adequate output of copper lies primarily in the benefication of low grade ores by the flotation method, that is, as in the case of low grade iron ores, the removing with water of part of the nonmetallic content of the ores. Also the effects of a copper shortage may be mitigated by a more careful conservation of scrap and by the use of substitute electrical conductors of which aluminum is at present the most promising.

Of the other important building minerals, America holds an important place in the output of aluminum, magnesium, lead, and zinc. Aluminum, which became commercially feasible with technological advances in the 1880's, reached a position of importance with the coming of the airplane, especially in World War II. World production increased from 12 metric tons in 1886, to 70,000 metric tons in 1914, 276,800 metric tons in 1928, and to 1,900,000 metric tons in 1943. At the latter date the United States had about 40 per cent of world capacity.

Lead, now used primarily in storage batteries, electrical cable coverings, and in paints, although here it is giving way to white titanium, saw production in the United States increase from 17,500 short tons in 1870, to 95,725 tons in 1880, to 280,138 in 1900, and to a peak of 728,885 tons in 1926, whence there was a decline to a production of 443,467 tons in 1945 In 1916 the United States produced 49 per cent of the world output, but this figure fell to 20 per cent in 1938 as native ores began to be exhausted Now the United States is a net importer of the product

Zinc, used in galvanizing and in alloys especially to make brass and bronze, has been employed at an astonishingly increased rate, although no startling new uses have developed for it About 78 per cent of all the zinc smelted in the last 150 years was produced in the last 25 years The United States is the largest producer, followed in order by Canada and Mexico Magnesium, like aluminum, came into prominence as a result of a search for light, strong metals for airplane construction. Output in the United States jumped from 6 7 million pounds in 1939 to 367 2 million pounds in 1943 because of war demand, but then fell back to 20 million pounds in 1948 The United States is the world's largest producer of this mineral, obtaining its supply from deposits in Nevada and from sea water on the Texas coast

Among the nonmetallic building minerals, mention should be made of clay for ceramics, limestone for cement, gypsum for plaster and cement, and asbestos Except for the last of these the United States has good supplies In 1948 it produced about 25 per cent of the world's output of cement and 32 per cent of the gypsum It is the world's largest consumer of asbestos, but the chief source of supplies is a vein in northern Vermont, the larger portion of which is just over the border in Quebec.

IV NATURAL RESOURCES—THE CHEMICAL MINERALS

In addition to the fuel and building minerals, there are the chemical minerals which are essential to the making of a multitude of products from soap and paper to plastics and fungicides, and from fertilizers and insecticides to matches and explosives Of all these chemicals common salt (sodium chloride) is among those in the very top ranks, for from it can be made soda ash, which when treated with limestone produces caustic soda (or lye) and chlorine—the former used in the manufacture of soap and the latter employed in bleaching The United States has abundant and widely distributed mines of salt and in the early 1880's began to transform the mineral from them into soda ash by what was then the very low cost Solvay process Toward the end of the nineteenth century this method of transforming salt began to be replaced by the electrolytic process which raised the United States to among the most important producers of the basic alkali In 1945 American production of salt was 15.4 million tons, which was double the production of 1935 and which was nearly 30 per cent of the world s total

A second of the chief chemical minerals is sulphur, which is important to the basic industrial acids and hence in the manufacture of a long list of things from paper to storage batteries During the nineteenth century the chief source of sulphur was Sicily, but early in the twentieth century wells were driven in Texas and a little later in Louisiana, which *soon placed America at the top of all producers, 90* per ce [illegible]
late th [illegible]
new ([illegible]
adequate supplies for a long time to come

As regards the chemical minerals which are used for fertilizers, the story is not quite so bright. Tons of the three major chemical components of plants—phosphorus, potassium,

and nitrogen—are wasted every year Much of the former two go down our rivers as sewage and out to the open sea while nitrogen vanishes into the air So wasteful are we of these chemicals that there are those who predict that the Apocalypse will come when the soil has lost its fertility Also there are those who contend that mankind will be forced eventually to live off plant life in the sea and who are con ducting experiments to produce a palatable food from alga On menus of the future we may see "Sea weed hash" and "Ocean grown salad"

Unfortunately natural deposits of phosphates, potash, and nitrates are not very large in the United States Nevertheless, the production of phosphates went up from 3,800,000 metric tons in 1938 to 6 million tons in 1945, but American deposits are decidedly inferior to those of North Africa Also, although the United States was largely dependent upon Germany for its potash prior to World War I, a vigorous search for national deposits was rewarded by the discovery of supplies large enough to meet America's current demands In 1938 the deposits at Carlsbad, New Mexico and at Searles Lake, California were largely responsible for the fact that the United States produced 9 per cent of the world s supply, but this is a small proportion when compared with 60 per cent of the world s total produced by Germany

Similarly, nitrogen, which is important for explosives as well as for fertilizers, was primarily obtained from abroad, especially from Chile, until after World War I By that time German chemists had developed ways of nitrogen fixation from the air, the most famous of these methods being the Haber process Soon all important industrial nations had nitrogen fixation plants of their own, and the United States no less than the others It developed its capacity to 600,000 tons in 1939, and then again to 1,451,000 in 1945, thus surpassing Germany

V NATURAL RESOURCES—ORGANIC PRODUCTS FOR INDUSTRY

Although, as has already been pointed out, inorganic materials have played the greatest roles in the industrial progress of the United States, particularly in more recent times, certain organic products have been of importance Most of these materials will be discussed in a subsequent chapter on agriculture and many of them are connected with food in one way or another, but two of them are used almost exclusively in industry and hence deserve to be included here They are wood and cotton

One of the salient facts about American history is that when the white man came to the shores of the New World he found a continent that was about half covered with virgin timber Here was an enormous asset that no settled country could match It provided an easily worked material for quickly building houses and factories and for the production of a plethora of things from tools to furniture It furnished a cheap and handy fuel for heating and cooking, it gave protection to wild animals which could be killed for both furs and food, and it gave a land cover which held water for drinking and for transportation and which prevented the soils of the country from being washed away

So extensive were the forests of the country, however, that early Americans did not appreciate their value and even took a hostile attitude toward them Trees were cut ruthlessly and were burned to clear land, to get rid of wild animals and wilder men, and to give quick cash returns Subsequently forests were slaughtered to provide wood for fuel and lumber for rebuilding the first wood structures which from their very nature were bound to disintegrate, for replacing those which burned, and for building anew to meet America s growing needs Then the forests had to meet the demand which was placed upon them with the development of a method of making paper from wood pulp, which

brought newsprint from 24 cents a pound in 1865 to 3 cents in 1893, and, after 1914, of making rayon from the same source

A virginal forest cover of some 900 million acres has been reduced to 624 million acres, of which only 461 million acres are classified as commercial, the rest being in various types of scrub growth Although in 1944 the drain on American forests from cutting fire, windstorms, and insects was almost offset by total forest growth, there is an increasing preponderance of hardwoods to softwoods, a continuous decline in commercial growing stock, an increasing demand for timber products, and a preponderance of production in the Far West, far removed from the most important markets

The second of the great organic industrial raw materials is cotton, once thought to be king" of industrial materials Although cotton was a very small crop in colonial America, its cultivation grew enormously after the invention of the cotton gin in 1793, a development that had much to do with the spread of Negro slavery in the South By 1860 the United States was producing 3,841,000 bales or three fourths of the world s supply, and subsequently the crop increased as new lands to the west were given over to its growing, until the output reached almost 18 000 000 bales in 1926 Thereafter, production declined to around 12 000,000 bales, or about 41 per cent of the world s output, because of foreign competition, low cotton prices, and the high cost of labor

The salvation of cotton growing in the United States seems to depend upon the development of a mechanical picker that is both efficient and lower in cost than anything now on the market, improvements in plant varieties and their cultivation, especially the irrigating of the crop, and the finding of new uses for the fiber Reduction in cotton acreage in the United States and the cultivation of larger units indicate the increasing probability of the mechanization of cotton farming The extended use of cotton at present lies in its substitution

for hemp and other fibers in bags and coarse products and in its treatment to compete with rayon and nylon

From the above discussion of natural resources in the United States one salient fact stands out from all the others—that America was particularly well endowed with many of those natural riches which were essential for industrial expansion Although it is theoretically possible for a country to obtain what it lacks in exchange for its own products, it is obvious that 'its own products' will be nonexistent unless it has some natural resources, if only fertile lands for growing crops or brilliant sun for tanning the skins of tourists In those parts of the world where a knowledge of the industrial arts and the supply of capital are somewhere near equal, there is a concentration of industry where there are the greatest supplies of economically useful natural resources

Inasmuch as this correlation between natural resources and industry exists, and because there is a similar correlation between industry and well being, there is consequently a correspondence between natural resources, well being, and levels of civilization If America achieves the heights of civilization which are expected of it, it will be in considerable degree because of the country's natural wealth

chapter

3

THE INDUSTRIAL ARTS AND OTHER FACTORS OF INDUSTRIAL GROWTH

I THE INDUSTRIAL ARTS AND INDUSTRIAL GROWTH

Thus far in our study we have stressed the interdependence of factors in producing economic growth and the difficulty of isolating any one catalytic agent to which *all* change may be attributed In spite of the validity of this contention, however, it is clear that some elements of industrial progress were of more strategic importance than others and that part of our task is to determine the relative importance of each Certainly knowledge of which factors played key roles in growth is essential if man hopes to adopt adequate policies for achieving economic progress in the future

Among factors of industrial growth which rank high as agents of change, surely the industrial arts, which include 1) machines, that is, mechanical contrivances for the production of goods and services, 2) methods for activating these machines by the use of inanimate sources of energy, and 3) techniques for transforming substances in nature from less useful to more useful forms, deserve a place of prominence They act as a precipitant, actually giving form and direction to a vast number of other factors, and in addition they contribute directly to civilization by aiding man to extend his control over nature Some of them, like the steam engine, gave a great impulse to mechanizing industrial pro-

duction and loom large in the history of the industrial revolution Others, like irrigation, reduced the dangers of famine on account of droughts And still others created means of rapid transportation which prevented temporary local shortages and extended the list of products which man consumes

When industrial arts come into being as inventions, they do not "appear out of the blue" as an extra planetary phenomenon, but are created gradually as the result of social, or anticipated social, demand Even from an historical viewpoint, "necessity is the mother of invention" Moreover, these arts take form through the accretion of small details until some relatively minor addition brings about a thing that is considered new—something which can be glorified by the name "invention" Those who are responsible for creating new industrial arts, the inventors, are persons with knowledge of the details of a given technique and with imaginations regarding the possibilities for improvements Inventors are found in those societies where the productive arts are well developed, where the demand for increased output per person is great, and where the level of technology is high

In the early history of the United States these conditions were not fully met and consequently inventions were relatively few and far between For a long time the country borrowed most of its techniques from abroad and thus avoided the developmental costs and mistakes of others Yet, because the American economy was growing so rapidly, conditions for inventions were becoming more propitious There was pressure from newly installed industries to have technicians who could provide them with the latest and most efficient methods of production and there was a demand from the older branches of the economy for ways to keep pace with the younger

Up to approximately the middle of the nineteenth century inventions were predominantly the work of artisans and "tinkerers" who, from practical experience, were familiar with existing processes and what was needed to improve

them For the most part these men used trial and error methods, and many of their findings seemed to be almost accidental Eli Whitney is a case in point, for although he was well acquainted with the picking of seed from cotton, he had to try several ways for getting the seed out mechanically before he made a successful "gin"

From the middle of the nineteenth century onward, however, inventions tended to be more and more complex and to be made by those who had a knowledge of what prior conditions were necessary in order to get desired results—why one event followed another In other words, more recent inventors have tended to be trained men who use the scientific method

As time went on, these scientists came to work more and more in teams in well equipped laboratories Probably the pioneers in cooperative research in America were agricultural specialists whose work was financed by sale of public lands under the Hatch Act of 1887, which provided $15,000 a year from the sale of public lands to be given to each territory or state for financing agricultural experiment stations Soon, however, organized research was undertaken by various agencies of the government, such as the Department of Agriculture, the Bureau of Mines and the Federal Bureau of Standards, by private technical schools, and subsequently by such private industrial concerns as the Bell Telephone System, the Du Pont Company, the General Electric Company, and the Eastman Kodak Company During World War I special efforts were made through the combined work of scientists, organized by the National Research Council, to produce those things which the United States formerly obtained from its enemies, and during World War II, organized by the Office of Scientific Research and Development, to create new and more effective weapons

The accomplishments of these various groups have been little less than fabulous Agricultural scientists working in groups have been able to perform such miracles as the devel-

opment of new fruits, like the grapefruit, the elimination of diseases in cattle, like tuberculosis, and the treatment of milk so that it became a great national drink Team research was responsible for the radio, for nylon, for radar, for television, for the new "wonder drugs," and for nuclear fission[1] So important, indeed, has been this "putting together of heads" that there are those who contend seriously, although rather extravagantly, that it may prevent future declines in economic well being per capita and hence declines in civilization

Along with these changes in the method of organizing research, the United States began to make important contributions to the industrial arts Because of the general abundance of materials and the shortage of labor in the United States American inventions have been characteristically of the labor saving variety, such as the telegraph, reaper, sewing machine, telephone, and air brake, whereas European inventions have been characteristically of the material saving variety, such as the Bessemer process of steel making and the by product coke oven But the rapidity with which technological information has come to be disseminated and with the number of persons in various parts of Western culture competent to deal with problems, these differences have become less great

In recent times the trend seems everywhere to be toward those inventions 1) which will give greater flexibility to the location of industry and hence to a greater utilization of resources, such as the automobile, truck, and electric power, 2) which will give greater production per man hour, such as the farm tractor and belt line assembly, and 3) which will provide a greater utilization of raw materials or the substitution of what is abundant in nature for what is becoming rare

II THE APPLICATION OF NEW TECHNOLOGY TO INDUSTRY

Important as is an understanding of the inventive process to a comprehension of economic growth, a no less significant

subject is the actual adoption and application of new techniques to the process of production What determines the putting of new technology into operation are social forces similar to those which brought that technology into being in the first place Adoption is therefore a function of a generally recognized need, of the ability of technicians and labor to build and operate the required equipment, of the availability of materials to be processed, of an expectation that the market will absorb the new supplies, and of the willingness of investors to hazard their capital in the new technique

The actual effectiveness of new industrial arts can be ascertained in a rough way either by measuring increases in production per man hour or by comparing the prices of various goods through time By the latter method, which has a much greater applicability than the former because of the greater amount of pertinent data available, one finds that those industries where greatest technological progress has been made are those whose unit of product requires a lower proportion of wages for purchase than those where no technological progress has been made Thus many fewer working hours of labor were needed to buy one ton of steel in 1950 than in 1850, whereas about the same number of working hours were required to pay for a hair cut performed in a time honored fashion Certainly increased production resulting from technological improvements has meant a reduction in prices measured in terms of hours of labor

Available information for the United States indicates that those industries which grew most rapidly from 1869 to 1899 were coke, steel, explosives, paper and pulp, silk, cotton goods, and railroad equipment, while from 1899 to 1937 the leaders were automobiles, radios, petroleum refining, chemical products, electrical products, printing and publishing, and textiles On a man-hour basis the greatest advances in production were registered from 1869 to 1899 in petroleum, paper and pulp, steel, silk, and coke, from 1899 to 1929 in cigarettes, automobiles, beet sugar, petroleum, coke, blast

furnaces, electrical equipment, locomotives, cement, and chemicals, and from 1929 to 1939 in pens, rayon, oleomargarine, refrigerators, radios, lead, railroad cars, locomotives, petroleum, washing machines, tin cans, tires and tubes, and industrial chemicals

Some industries approached the peak of their efficiency early, as in the case of cotton around 1884, some, like petroleum refining, continued to make progress, others, like house hold equipment made progress late, and still others, like the building trades, showed but little improvement at any time In general, it would seem, that advances came first in basic products and subsequently in consumers' goods[2]

Before leaving the subject of output per man hour, we should not fail to mention the factor of size of plant and size of industry Although the correlation is by no means perfect, greater output per person has been obtained or the greatest savings effected in large size plants and in large size industries[3] In some industries either relatively small or relatively large size plants do better than the medium size (cotton spinning, iron and steel blast furnaces), in others the medium size do better than the small or very large (wire), and in still others there seems to be no correlation between efficiency and size This being the case, America comes closer than any other country to optima conditions of growth Its large market has permitted the creation of a greater volume per industry than that achieved in any other major country and consolidation has resulted in the establishment of relatively large size factories

III INVESTMENTS, LABOR, AND SCIENTIFIC MANAGEMENT

In the application of new industrial techniques much depended upon the amount of capital available for investment, the skills of the labor force, and the organization of plant In later chapters we shall discuss all of these questions in

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to the establishment of a tradition of "tinkering." Even today American men pride themselves for being "jacks of all trades" and this pride makes them ready to attempt anything, including the learning of a new and technical trade. Then among immigrants there were many skilled workers who kept standards of performance high and served as teachers to the adaptable but less precise American worker. Also American education early stressed technical and trade instruction and hence prepared a certain number of workers for skilled jobs. And finally, American producers' equipment aimed more and more at standardizing tasks, as for example on the moving assembly line, so that the training period of workers did not have to be very long.

So far as numbers of the labor force was concerned, America had both a high natural rate of population growth and a large immigration. Yet labor was almost always in short enough supply, or wages were so high, that industrialists had a constant incentive to introduce labor saving machinery in order to reduce costs. Thus there was a tendency to improve the equipment of whatever number of workers was available, and this tended to raise the general level of well-being. (See table 11.)

In a similar fashion American industrialists early sought to make up for labor shortages, or lack of capital, by establishing a more efficient organization of production. This was apparent in such textile plants as the Amoskeag mills at Manchester, New Hampshire, where efforts were made to effect an extreme division of labor and the mass production of standardized products, and later, in the twentieth century, by two closely related movements—"scientific management," advocated by Frederick Winslow Taylor, and "mass production," instituted by Henry Ford.

Frederick Taylor was an engineer whose great technological achievement was the development of high speed, carbon tool steel. Announced in 1906, this new metal permitted a much more rapid cutting of steel than had hitherto been

possible, greater precision, and hence the possibility of turning out interchangeable parts in the mechanical industries In fact, Taylor's steel, along with still other cutting alloys, made possible the use of automatic machine tools which revolutionized these industries

But while Taylor was engaged in this engineering endeavor, he was also concerned with reducing inefficiency in production In 1895 he presented his famous paper on "A Piece Rate System," which advocated wage payments that would reward the particularly efficient worker He went on to propose means for reducing accidents and organizing work by time and motion studies His crusade was given great impetus and the term "scientific management" popularized by the great American jurist, Louis Brandeis, who in a railroad rate case in 1911 produced testimony to the effect that railroads could, by the introduction of more efficient methods, save one million dollars a day Ultimately the concept of scientific management, although largely extended to include welfare projects and even high wages, was successful in getting higher output per man-hour of work

At the same time, progress was being made with the moving assembly line In the manufacture of watches, sewing machines, and guns, parts were brought together at one point and assembled by a single worker or small team of workers, and this practice was adopted at first by automobile manufacturers, especially by Henry Ford In 1913, however, Ford began to experiment with a "moving assembly" The experiment showed that it was possible to reduce, for example, the time devoted to the assembly of the flywheel magneto from 20 minutes to five, and of the chassis from 12½ hours to 1½ hours The reduction in the price of the Ford car from $950 to $290 and the introduction of high wages were largely the result of mass production The fact that the Ford Motor Company achieved fantastic success, turning out about 250,000 cars a year by the outbreak of World War I, estab-

lished mass production of standardized products as an essential way of increasing the economic well-being of all

IV INDUSTRIAL LOCATION AND ECONOMIC GROWTH

Closely related to the problem of organizing industrial production in order to get low costs was that of locating manufacturing where it would have the greatest geographical advantages Factors determining location are extremely complex and difficult to measure, for they vary from industry to industry, from place to place, and from one period to another Some industries, like steel, tend to be located near raw materials or where raw materials can be assembled at low transportation costs, for into steel go such bulky products as coal, iron ore, and limestone All of these things have a low value in relation to their weight and can be shipped less easily than the finished product

Certain other industries, like those for making precision instruments, watches, and fine glass, require skilled workers and tend to be located where such workers are available And once located these industries do not move easily, for workers do not like to be displaced *en masse* Then there are style industries, like fine clothes, and service industries, like bake shops, which are located close to their markets in order that either the slightest change in styles can be taken into account, or so that the product will not deteriorate before reaching the consumer, or so that producers may keep in touch with their customers and prevent them from falling into the hands of competitors There are industries at intermediate stages of production, like the printing of cloth, where costs of transporting materials for final processing are low in comparison with costs of distributing the final product, and which consequently tend to be located near markets or sources of cheap labor And there are industries which are dependent on others and which tend to be drawn together, like the parts industries for automobiles

Some areas, like New England and the Middle Atlantic States, had a head start in manufacturing either because of skills, raw materials, power, or proximity to markets, and maintained their positions of prominence even after the initial advantages had been lost or minimized This they were able to do in part because they had skilled labor as well as surplus plant, and in part because they improved their transportation systems, adopted "footloose" or market oriented industries, and developed new industries

In general, however, there has been a marked dissemination of American industry and a trend away from area concentration Along with the increase in population in the more thinly settled areas, there was also in them an ever greater amount of manufacturing[4] In 1860 only 8 per cent by value of the country's manufacturing came from the South, most of the rest came from the Middle Atlantic and New England States Gradually this situation changed with the East North Central and Pacific States pushing far ahead on a rate of growth basis, the New England and Middle Atlantic States declining in importance *relative* to others, and the South making substantial gains, especially in terms of total value (See table 12) Also industry grew faster in smaller cities than in the very large and did not keep pace with population growth in the "thirty-three industrial areas" established by the Bureau of Census

Among the most important reasons for the decentralization of industry were improved rapid transportation, the greater mobility of short distance transport by means of the motor truck, and the greater mobility of power made possible by electricity Rapid transportation by means of suburban electric or diesel railroads, autobuses, or automobiles meant that workers could be drawn from larger areas without requiring them to change dwellings, while branch lines of railways and motor trucks permitted the bringing together of materials to be processed, and electricity furnished cheap and abundant power Thus "footloose industries," like

pharmaceuticals, candy, and distilling, and new industries which had no established sites, like automobile assemblying, radio production, and nuclear fission, settled in outskirts of large cities or in small places in the countryside There were many signs, indeed, that American industry by locating in lower cost areas was making progress in reducing congestion in large cities and was thereby improving the well-being of workers

V GOODS FOR CONSUMERS

All of industrial activity which we have been discussing has as its ultimate object the production of more and better goods and services for mankind Indeed, the end of all economic concern is the improvement of human welfare, although too often this fact is lost sight of in a maze and haze of verbiage and hair splittings Thus in any attempt to understand the economic foundations of American civilization, it is essential to give close attention to consumers' goods industries Unless this is done it is extremely difficult to determine whether or not the economic well being of the people is actually increasing and creating stronger pressures for raising the level of civilization

Of all consumers' goods industries that which is most vital to life is food manufacturing and, as it happens, it is the most important in America from the point of view of value It accounted for 25 per cent of the value of finished commodities in 1869 and 30 per cent in 1919, and for 19 per cent of all manufactures in 1899 and for 18 per cent of them in 1939 Then too, food is the most important item in the consumer's budget Yet it is less than it was a hundred years ago, a percentage reduction which indicates that the consumer has purchasing power for many other things in addition to the bare necessities of life Also the consumer has a much better diet than he did a century back He has more of the protective foods, those high in vitamins and proteins, a wider variety

of foods, and much better quality So greatly has the American diet been improved, indeed, that it is responsible for much of the increase in the height and weight of Americans over their forebears and for some of the progress made in public health

Of the different branches of the food industry meat packing has long ranked first in value, and Americans have been one of the leading meat eating peoples In the early part of American history slaughtering was a local industry and the products of the slaughterhouse were consumed within the radius covered by the "meat cart" With the development, however, of the growing of livestock on the wild grasses of the Western prairies and with the increasing importance of such by products as hoofs for glue, fats for soap, and waste for fertilizer, slaughtering became more concentrated in the Middle West to avoid the expense of long drives or of long hauls and the consequent shrinkage of the animals Also at first most of the meat was dried, smoked, or pickled in order to protect it for shipment, but by the middle of the nineteenth century some of it was going into cans and by the 1870's some was being chilled and shipped to market in refrigerator cars and ocean vessels These changes strengthened the position of the Middle West in the "meat packing industry," as slaughtering came to be called, and soon Chicago, whose famed Union Stock Yards were opened in 1865, became the leading packing city of the world, although later other places, such as Kansas City, came to be close rivals

In the flour milling industry there was also a movement westward, similar to that in meat packing In 1870 New York State was the leading producer of flour, followed by Pennsylvania, Illinois, and Virginia But by that date Mid-Western flour milling with its center at Minneapolis, was established and advancing rapidly As in the case of meat, there was an advantage in concentrating the industry in order to get by products, especially those which were used for fattening nearby livestock Then Minneapolis millers

were the first in America to use steel grinders in place of millstones and this prior use of a very advantageous technological improvement gave the flour milling industry in Minneapolis a tremendous fillip

Next to foods, textiles constitute the most valuable class of consumer goods and here again family expenditures show that Americans are much better dressed than their ancestors Of all the textiles cotton has been the leader in value since 1865 Also since that date, the expansion of the industry has been very great The United States increased its consumption of cotton from 800,000 bales in 1870 to 12,600,000 bales in 1942, which was about one-fifth of the world s supply Furthermore, the output of cotton textiles per worker was augmented by better gins, a 33 per cent increase in the efficiency of spindles from 1870 to 1890, and the development of the Northrop loom which stopped automatically when a thread broke and which changed shuttles without coming to a halt

So far as the location of the cotton industry was concerned there was an extremely important migration from the North to the South In 1870, 75 per cent of the consumed cotton in the United States was employed in New England and only 12 per cent in the cotton growing states, but in 1949 New England took only 7 7 per cent of the total and cotton growing states 90 per cent This shift is to be explained by the fact that cotton manufacture is not highly integrated, can be carried on in stages, and employs quickly learned techniques Hence it tends to seek cheap labor, which was more abundant in the South than in New England

In woolen textiles no such dramatic changes have taken place as in cotton, but the industry has grown enormously, the United States becoming the second apparel fabric producing country in the world In rayon the United States forged to the front of all producers, turning out 1,121 million pounds of product in 1948, which was almost half of the world's output and equivalent to almost half of the country's consumed cotton Here was a revolution that spelled

the end of the silk industry and was to be a threat to cotton And, as though this competition were not enough, other synthetic fibers, particularly nylon, have come into the market to give the *coup de grace* to silk In 1948 nylon production was 60 million pounds and the industry had been in existence less than a decade

In third place among consumers' goods comes "automobiles and equipment,' a classification that accounted for about 7 per cent of the value of all manufactures in 1939 The importance of this industry is, however, much greater than the value of the immediate product would indicate The automobile has been largely responsible for the development of the American highway system, it is the greatest user of rubber and petroleum products, and its demand for steel and other metals is prodigious It has altered the layout of cities changed the recreational habits of an entire nation, altered our traditional methods of courtship, influenced our standards of morality, and provided the American people with a mobility that no other settled society has And what is of greatest moment, the automobile industry provided in the twentieth century the kind of economic expansion on which the capitalist system seems to thrive

The youthfulness of the automobile industry is especially striking when one realizes that only four automobiles were manufactured in the United States in 1895 At first, electrically or steam driven cars competed with those powered by internal combustion engines, but the future was with the gasoline motor The invention of the self-starter in 1912, one of the few American contributions to the early development of the gasoline automobile, was especially crucial in this change Then the reduction in price affected by Ford through mass production made possible a great extension of the market By 1917 almost 5,000 000 motor vehicles were registered in the United States, and by 1948, 41,100 000 or 71 per cent of all in the world In price they had fallen to such a level, including those available in the second hand markets, that

they were within the reach of the great bulk of the families of the nation They had become as necessary and as available to America, with its great distances, as the ubiquitous bicycle had become to Western Europe, and with four wheel brakes, introduced in the 1920's, and with the fluid drive, introduced in the 1930's and 1940's, they had become both safer and easier to handle

No other industry of comparable size can boast of such a rapid rise as the automobile to fame and fortune, but there are some, like the telephone, radio, airplane, and household equipment that have done remarkably well and have so contributed to the well being of consumers that they have allowed Americans to devote more of their time and energy to the arts and to the establishing of more orderly relations among individuals in society The telephone has, for example, and in spite of all the needless gossip that is indulged in on the traditional "party lines," permitted people to save much time and trouble in communicating with each other It has, as did the clock much earlier, improved the organization of production and distribution so that the efforts and needs of many people can be made to mesh more harmoniously It allows the manufacturer to keep in touch with all branches of his undertaking, the retailer to place his order with dispatch, the housewife to do her shopping while sitting still, and the investor to keep his finger on the pulse of the market And all of this change has taken place in less than a hundred years The first telephone message was sent by Alexander Graham Bell to his assistant in 1876, while in 1944 there were 26,400,000 installed telephones in America and a great demand for many more

The airplane has also done much to increase the economic effectiveness of the individual and to give him more time to indulge in the civilizing process It, too, is of recent origin, Wilbur and Orville Wright having made their first successful flight in a heavier than air machine in December, 1903 And although the airplane industry has not assumed the pro-

portions of the automobile industry, it is "big business" In 1945 the revenue passenger miles flown on scheduled operations were 3,362,455,000 and the ton miles of freight and mail flown were 87,000,000

Then there are the radio, moving picture, and television industries which should be included here Their chief importance is less in the fact that they have added to the economic potential of man, although in this respect their contributions have not been insignificant, as that they have increased man's ability to enjoy acoustic, visual, and dramatic arts At no time in the past, even in Greece and Rome with all their theaters, has such a large proportion of the population been able to partake of these forms of art This extension of esthetic enjoyment to the masses must be considered in Western culture as a mark of civilization, for the limitation of art, order, and freedom from want to only a small segment of the population does not conform to any acceptable definition of the word "civilization" Even though mass consumption may tend to bring down the average of quality, a lower average does not mean that masterpieces are not being produced and enjoyed

Finally housing and household equipment have raised the standard of living and hence the potential for achieving higher levels of civilization The number of dwelling units has grown faster than population and there has been a great improvement in the quality of installations, running water, bathtubs, flush toilets, central heating where necessary, and electricity being standard aspects of all recent housing construction Yet even in 1940 13 per cent of urban dwelling units in the North and West still lacked individual flush closets,[5] and in the South the percentage was higher

Perhaps the most characteristic feature of American homes is the large number of appliances to aid the housewife—gas or electric cooking ranges, central heating, electric refrigerators and freezers, vacuum cleaners, electric irons and mangles washing machines, dish washers, floor polishers, and the like

These things took 12 8 per cent of consumers' expenditures in 1941, compared to 9 9 per cent in 1909 and to 14 3 per cent spent for clothing, accessories, and personal care By reducing household chores, these things gave American women more free time, which could be and was used, in spite of flagrant exceptions, either to produce other goods and services or to create or enjoy the esthetic and intellectual phases of civilization

Yet it must be remembered that household appliances were in part taking the place of domestic servants and that for the fairly well-to-do who gave up having servants there was probably a loss in personal comfort But surely improved household equipment contributed to extending well being and furnished a good example of the trend toward the equalization of the essentials of living Most of the lower classes, except the very poorest, came to have much the same comforts, such as heating, lighting, and plumbing, as the upper classes This trend has had an enormous effect in deepening the internal market and in preventing class antagonisms

What the trend toward equality in the manner of living means for the development of civilization is difficult to estimate, but one thing seems certain—a larger percentage of the population than in any other culture is obtaining opportunities to participate in creative activity or to appreciate the achievements of others Thus has industrial growth, effected, as we have seen, by a rare combination of natural resources, of knowledge of industrial arts, of capital for equipment, of labor both willing and able to work, and of organizational genius, resulted in a fabulous increase in wealth per capita It is this increased wealth, stemming so largely from industry, which should lead to a higher level of civilization for all in America

chapter

4

"EXTENSIVE AGRICULTURE"—ITS BENEFITS AND ITS PROBLEMS

I AMERICAN AGRICULTURE AND ECONOMIC PROGRESS

When, at the beginning of our study, we took the long view of American economic history in order to get a preliminary idea of some of the major characteristics of this "model of progress in economic well-being," we noted among the basic structural changes which had taken place a drastic shift away from agriculture to industry and trade Just how great this shift was can be seen from the following facts in 1869-1879 20 5 per cent of national income came from agriculture, while in 1950 only 7 2 per cent came from it, in 1860 59 per cent of the gainfully employed were engaged in agriculture, while in 1950 only 14 5 per cent were occupied by it, and up to 1920 more than half of the population lived in rural areas, that is, in places of less than 2,500, while in 1950 over 60 per cent of the population was urban Clearly agriculture had lost ground relative to other branches of the economy, and the ideas and ways of life of the city had captured the minds and the imaginations of the American people

In one sense, as was mentioned earlier, this change resulted in an economic benefit to the United States, for inasmuch as the man hour output of the worker in industry was on the eve of World War II three times that of the worker in agriculture there was a big advantage in having a larger pro-

portion of workers in industry. Yet even though this was true, the role of agriculture in the economy should not be minimized Indeed it is well to remember that up to the present time, so far as the whole world is concerned, the one natural resource which has outranked all others is fertile land Without it man would be unable to provide himself with food necessary to sustain life nor to obtain many of the vegetable and animal products still needed in industry He would be unable to read his morning paper, butter his toast, or put on his woolen overcoat Throughout all world history, indeed, agriculture has occupied more people than industry and its products have had a higher total value If a change in the relative positions of industry and agriculture has taken place, the change has been limited to the economically advanced countries and to the relatively recent period

Also one should not forget that in the economic development of the United States the role of agriculture was crucial Nearly all of the country was settled by agriculturalists and up to the twentieth century American food exports consistently out-valued semi-manufactured and manufactured goods and thus went to pay back part of the capital which had been borrowed abroad by Americans to get their economy under way

And finally one should recall that although production per man hour in agriculture did not keep pace with production per man hour in industry, progress in agriculture was not negligible Indeed, the amount of land in farms almost tripled from 1869 to 1949, the value of farm property increased eightfold from 1860 to 1945, and, as is shown in table 5 of the appendix, production per man-hour in agriculture nearly tripled from 1870 to the years 1939-1941 In 1938 those employed in agriculture in America had an output per capita over twice that of farmers in France and Germany and over four times those engaged in agriculture in Italy, while in 1947 they had a production that was some seven times that of farmers in Western Europe Most significant of all, however,

was the fact that progress in American agriculture from 1889 to 1949 made possible a 23 per cent reduction in the amount of harvested land needed to furnish food per capita of the population and a 65 per cent increase in the amount of land which one worker could cultivate (see table 15) Obviously agriculture was making an important contribution to civilization by providing man with more leisure and greater freedom from want

The really remarkable advances made by American farmers from the middle of the nineteenth century to the middle of the twentieth were achieved under a system of "extensive" agriculture rather than under a system of "intensive" agriculture, which characterizes most of Western European farming That is, American farms were on the average large compared with holdings in Europe and had an output great enough to permit the purchase and subsequent amortization of machines As in industry, so too in agriculture, the worker came to have mechanical "slaves" to do his bidding and these slaves permitted him to perform many times the amount of labor that was possible with only rudimentary and backbreaking tools

Furthermore, the American farmer came to grow ever more productive crops, to raise better strains of livestock, to use better seed, more fertilizer, and better methods of cultivation, and to specialize in the production of crops which were sold in the market How large farms came into being how improvements in farm methods were made, and how the "commercialization" of agriculture took place provide an insight into what must be done if economic progress in agriculture is to be realized in the future

II THE DISTRIBUTION OF LAND

From early in the history of America there was a tendency toward the disposal of land in large blocks The original grantees wanted vast tracks in order to have more wealth

and prestige, and they sold parts of their holdings in big segments at low prices in order to attract purchasers either speculators or settlers Then after the formation of the Union, public lands were sold in large lots because it was cumber some to sell small parcels Many of the "founding fathers," of whom George Washington was one, "speculated" in land, buying large tracts from the government and then reselling in smaller but still large lots

Perhaps the most dramatic aspect of landholding history in the United States has to do with the disposal of the public lands from early in the War of Secession to 1900 It was in this period that nearly a quarter of the total area of the United States went into the hands of private owners--a land mass equal in size to Great Britain, France, Germany, and Italy More precisely in 1860 the land area of the United States was 1,903,000,000 acres, of which about a billion acres were unreserved and unappropriated government domain, the so-called public lands By 1900 about half of this billion acres, most of which lay west of the Mississippi and which comprised some of the most fertile land in the world, particularly the black and prairie soils which lie between the longitude of Memphis, Tennessee and that of Bismarck, North Dakota, had become private property What was left was in large part desert or mountainous and much of it was reserved in one way or another

In disposing of the public lands, some efforts were made to facilitate sales to small purchasers Thus under the Preemption Act of 1841 (repealed in 1891) heads of families who had settled on unsurveyed public land on the frontier had the right to purchase their holdings at the minimum price when the land was actually placed on sale In 1862, moreover, the government policy of disposing of the land was greatly liberalized, in part to win the Northwest to the cause of the North in the War Between the States, in part as a social measure to offer opportunities to those who wanted to farm, and in part to hasten the settlement of Western

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were created and constituted a foundation for the system of extensive agriculture

Subsequent to 1890, when the "frontier came to an end," more land was actually homesteaded than prior to that date and the provisions of the law were altered to allow larger grants in regions where grazing over extensive tracts was necessary But by the early twentieth century the nation was becoming aware of the needs for conservation of resources and national forests and other reserves were created Thus in 1945 of the total land area of 1,905,000 000 acres, some 560,000,000 acres were public lands, mostly pasture, grazing lands, and forests, and 1,345,000,000 acres were private lands, of which 398,000,000 acres were in cropland, 548,000,000 in pasture and grazing, and 399,000 000 in forests or other lands

Exactly what the land ownership situation from 1860 to 1900 was is difficult to ascertain, for in census returns for this period tenant farms are listed as individual holdings At all events, the figures available indicate that the number of farms rose from about 2,000,000 in 1860 to 5,737,000 in 1900, and that the total land in farms went up from 407,213,000 acres to 838,592,000 acres during the same period The census of 1880 indicated that there were about 134 acres per farm

After that date there was a tendency toward the formation of ever larger farms, the average size reaching nearly 200 acres in 1950 This trend was encouraged by the need for large units to support mechanized operations and by consolidation of holdings because of foreclosures or other financial pressure during periods of low agricultural prices, particularly in the early 1930's Yet it should be noted that of the 6,100,000 farms listed in the census of 1940, 1,302,000 were actually not farms but were rural residences for workers, summer people, or retired folk and that another 2,717,000 were enterprises of less than $1,000 annual income, two thirds of which were in the South Hence farms which were

important in agricultural production, like the great ranches grain farms, and fruit farms, were far above the 200 acre average

Finally, two other characteristics of American farm holdings should be noted The first is the operation of farms by tenants and part owners About 25 6 per cent of farms were worked by tenants in 1880, 42 1 per cent in 1935, and 31 7 per cent in 1945 The percentage of farms held by part owners, mostly younger members of a family who had inherited a portion of a farm or were buying the family place rose from nearly 8 per cent in 1900 to over 10 per cent in 1945 The second feature of American farm holding was the turn over in holdings At least, the census of 1910 reported that 54 per cent of the farm population had not occupied the holding where they were living for more than five years, and although this percentage of change has not been maintained, farmers move from place to place in America more than they do in Europe

III THE COMMERCIALIZATION OF AGRICULTURE AND AREA SPECIALIZATION

The rapid growth of land devoted to farming and the creation of relatively large farm units made possible the establishment of the system of extensive agriculture, but extensive agriculture would never have had the success that it did if agriculture had not been brought into the orbit of the capitalist system The commercialization of agriculture, the growing of one or a few crops for sale in an impersonal market rather than many crops to meet the needs of the immediate producer, was in evidence well before 1850, as in the case of cotton agriculture, but it was only after that date that transportation facilities, farm machinery, and a money economy were well enough developed to make the change a dramatic one It was then that farmers gave up growing their own wheat and carrying it to the local grist mill to be

ground into flour, preferring instead to buy their flour at the local store They gave up raising sheep needed to produce wool for their own clothes and moved both spinning wheel and loom into the back attic whence they were to be dug out years later by antique dealers and "summer folks" They stopped churning their own butter or making their own cheese, even dairy farmers often using oleomargarine products instead And in some cases they even gave up growing fruits and vegetables for themselves, claiming that it was cheaper to buy canned or frozen foods in the nearby shopping center

As these changes took place, the middleman and food manufacturer assumed great importance, and handling costs of foodstuffs became a very large part of the final price Under the circumstances it was not strange that the middleman came in for a good deal of criticism, for the farmer could not understand why he was paid only three cents a quart for his milk when it sold in the city for 18 cents, nor could the housewife comprehend why she had to pay for fresh vegetables three or four times what the farmer received But although there were plenty of cases where middlemen or processors paid the farmer too little and charged the consumer too much, or where they abused their positions by suddenly and arbitrarily refusing to take a farmer's output, or where they charged excessive commissions, they performed useful services in mobilizing the production of many farmers to meet market demand and in improving the safety and attractiveness of food products

Also with the commercialization of agriculture and with changes in market conditions, there were important shifts in what was produced Thus cotton, which along with tobacco was one of the first of the great commercial crops, saw its output go up from 2 million bales in 1866 to nearly 18 million in 1926, but then, because of foreign competition in the world market, decline to 12 million In the case of the great commercial grains, corn, wheat, and oats, there was a sig-

nificant trend away from corn to wheat, in 1866 over four times more corn than wheat being grown, while in 1945 only a little over twice as much was harvested Similarly in livestock raising there were important alterations, in 1867 more sheep than hogs and more hogs than cattle being raised, while in 1945 a third more cattle than hogs and a third more hogs than sheep were produced American sheep raising for wool could not compete with Australian, and pork was losing ground to beef as a staple meat Then, too, the proportion of cattle to other farm livestock went up because of the great increase in the consumption of milk, the number of cows and heifers two years old and over kept for milk increasing from 8,263,000 in 1867 to 27,770,000 in 1945 and their milk production rising from some 2,025 million pounds to 75,455 million pounds over the same time-span

Most of these goods were produced at low cost and had a favorable position in food-importing countries As the railroads were opened up, the tramp steamer developed, and refrigerator cars and ships put in operation, American meats and grains consistently undersold local produce in European markets, grain sometimes being at half the European price The effect of this competition on European agriculture from the 1870's onward, when for several decades between 9 and 14 per cent of the value of all American farm products exclusive of cotton were exported, was to force European agriculture to take refuge behind tariff walls, or to change over, as was done in Denmark and Holland, to poultry, dairying, and truck farming in which these countries with their intensive methods of production had an advantage Likewise, Eastern farmers, who were also undersold in the great grain and meat staples, went more heavily into dairying, poultry, and other specialized types of agriculture

By 1914 definite area specialization in agriculture had taken place In this development the chief locational factors were the nature of the soil and climate, but as in industry proximity to market, availability of labor, and adequate processing

facilities also exerted an influence Thus cotton and citrus fruits could only be produced in the South, but around every large city there were to be found important truck farms and within a radius of some three hundred miles there was a "milk shed" The availability of cheap Mexican labor played a role in the location of fruit growing in California, and the presence of a large frozen food plant in New Jersey explains why there is such extensive vegetable growing in the neighborhood In many cases where production is for a fairly distant or large market, output has got to be concentrated enough to permit the middleman to ship by truck or carload lots

When World War I broke out these various considerations had resulted in the location of various types of agriculture in a pattern that has continued in the main even until today North and east of a line drawn from Norfolk, Virginia, to the northwest corner of Iowa was to be found mixed farming for the domestic market and for large metropolitan centers with emphasis on dairying, truck farming, and fresh fruit South and west of this line to the Ohio River and including Iowa and Missouri was the corn belt with its hog raising and livestock fattening, and west of this section to the western border of Kansas was the wheat belt Further west and southwest were the ranges for cattle and sheep Cotton was grown in the South, but it had moved westward especially into Texas And specialized crops like citrus fruits had become concentrated in Florida and California, apples to some degree in Washington and Oregon, and peaches in Georgia

IV TECHNOLOGICAL PROGRESS IN FARMING—MECHANIZATION, CROP IMPROVEMENTS, AND ANIMAL BREEDING

Concentration of farm production tended to lower costs and thus contributed to the strong competitive position of American agricultural goods in the world's markets and to

the economic well being of the American people, but ther were good and even stronger reasons than area specializatio for low American agricultural costs Not only was a new continent with its virgin soils, some of which were the mos fertile in the world, being opened up to farming, but th amount of farm land per capita of the population and pe capita of farm workers was so large that only the bette lands had to be cultivated Then, as we have already seen, farm units were extensive enough to permit mechanized production on a large scale And lastly advances in agricultural science led to the growing of better strains of plants, in better land utilization, in better soil conservation practices through the use of fertilizers, manure, irrigation, drainage and contour plowing, in better control of animal and plant diseases, and in better breeds of animals

In these many changes the development of farm machinery was of particular importance Although the basic concept of mechanizing agriculture was popularized in England during that country s agricultural revolution in the eighteenth century, the United States subsequently assumed leadership in both the invention and application of farm machinery Indications of this leadership were in evidence prior to the Civil War with the appearance of Cyrus Mc Cormick s reaper, which in 1851 was being turned out at the rate of a thousand a year and was saving the backs of thousands of farm hands, with the invention of John Deere s steel plow, which by 1857 was being produced in lots of ten thousand a year and which broke the soil with much greater ease than the cast iron variety, and with the perfecting of corn planters, hay making machinery, and mechanical threshing machines

But although these machines were in existence prior to 1861, the War of Secession did much to force the extension of their use The North's mobilization of over 1,000 000 farmers resulted in a farm labor shortage, which, together with prevailing high prices for foodstuffs, led farmers to adopt all

manner of labor saving devices This demand and that following the war brought forth improvements in old machines and some essentially new ones and contributed to their acceptance The twine binder was patented in 1878 and by 1880 about 80 per cent of all wheat grown was harvested by machine The spring tooth harrow, the disk harrow, and the riding plow came into being in the last quarter of the century And the centrifugal cream separator was brought into use, which, along with other dairying machines, ultimately took milk processing off the farms and placed it in creameries

Nearly all of the new field machinery was designed to be horse drawn, but the tendency was to make the machinery ever bigger and consequently heavier A climax was reached in the 1880's with the "combine," that did both the harvesting and threshing in one operation, but that required the draft of as many as 40 horses In the face of such loads as this, new draft power was indicated and it came with the tractor At first these machines were great, cumbersome affairs driven by steam, but when the gasoline motor was improved and put in tractors, they became lighter and more maneuverable In 1910 only 1,000 tractors were in use on farms, but by 1949 there were 3,500,000

The farm tractor itself created an agricultural revolution The number of horses and mules on farms declined from 26,500,000 in 1915 to 11,630 000 in 1945, and this change freed acreage devoted to feeding of draft animals for the growing of crops for ultimate human consumption The tractor necessitated greater capital investment in farm machinery, because the old horse drawn machinery was not adapted for use with it and to be profitable the tractor had to be used a large part of the time and to have a wide range of equipment for performing all kinds of farm jobs The rather big investment represented by this machinery required in turn large farms, which did a great enough gross business to permit amortization Thus the tractor and accompanying machinery contrib-

uted to the consolidation of land in larger holdings, to a doubling of acreage per farm worker between 1870 and 1940, to more than a doubling of output per farm worker between the same years, and to added financial responsibilities on the part of the farmer Of recent date, however, lines of tractors and their equipment have been extended to include small light models, and these newer machines are helping to preserve the one man, family farm—an institution which for social and political reasons is being fostered by all the countries of Western culture

Among other "machines" which were of importance on the farm and which should be given honorable mention in any account of farm progress were the truck and electricity In 1940 there were 1,047,000 trucks on farms and 4,144 000 automobiles, that is, about one truck for every four farms and one car per bona fide farm The trucks meant a lightening of farm work and greater flexibility in marketing, while the automobiles, in part used as trucks, increased the farmer's range of movements, extended his social contacts including those in neighboring large towns, and added to his range of recreational and educational opportunities He was now able to send his children to a good central high school, could take in the "pictures" of a Saturday night, and consult his county farm agent or attend agricultural demonstrations as he would

Electricity, for its part, has also played a vital role in the recent changes in farm life In 1923 it reached only 178,000 farms, but by 1940 it was installed in 2,352,000 farms, and by 1950 in nearly all bonafide farms It lengthened the working day of the farmer (and when put in henhouses, lengthened also the egg laying day of the hen) and it was used to run countless machines from milkers and refrigerators to water pumps and buzz saws It was one of the most important means for increasing the productivity of the worker, for augmenting the well-being of the population, and for giving people more time to contribute to the process of civilization

Great as were the changes in agriculture effected by machines, they were rivaled by advances in agricultural science. The most important improvement here had to do with the introduction of new crops or the development of strains that gave higher yields and that were more resistant to disease and drought. Thus the introduction from Russia of hard wheat, which was extremely hardy, made possible the planting of wheat in great districts of the Northwest. Similarly alfalfa, soy beans, ladino clover, and trefoil were important additions to field and forage crops for cattle.

Perhaps the most dramatic changes came, however, after World War I with the introduction of hybrid seeds that were much hardier than pure strains. In the case of corn, hybrid seed increased production by 10 per cent from 1938-40 to 1945. In fact, one index of crop production per acre with 1940 as the base year indicates production at 76 in 1909 and at 108 in 1944. Botanists were becoming so expert that they were able to produce seedless tomatoes, coreless carrots, wilt-less sugar beets, and all manner of other marvels. When a reasonably successful mechanical cotton picker was developed, they undertook to perfect a strain of cotton which would mature all at once, so that the machine would have to go over a field only once instead of several times to get the ripening bolls.

Agricultural production was also increased by an extension of knowledge regarding soil and its management. Although the basic facts of soil chemistry were known prior to 1860, many things about soil were not known and even fewer were practiced. Not until almost World War I was attention given, for example, to types of soils and to their classification. Subsequently more emphasis was placed upon the use to which certain soils were put, upon their specific needs, and to the adding of humus. During the 1920's liming acid soils was greatly increased, but in the 1930's the use of agricultural lime increased from ten to fifteen times.[2]

Also efforts were made to prevent soil erosion Over cropping, hillside planting of row crops, and plowing up areas that should have been left in native grass had resulted in the devastation of a large part of America's farm land. The formation of great gullies in some districts and the development of the 'Dust Bowl" in the Southern Great Plains region as a result of a long drought in the late 1920's and early 1930's awoke Americans to the need for conservation practices The Soil Conservation Service, established in 1933, estimated in 1940 that 50 million acres of once productive land had been ruined, another 50 millions almost ruined, and half the top soil gone from another 100 million acres of crop land Such waste, so characteristic of earlier American farming, was vigorously attacked Cover crops were doubled between 1928 and 1937, contour plowing was practiced more widely, and legumes were grown more extensively But with all these changes, soil erosion continues to be one of the great problems of American agriculture There is, indeed, a crying need for measures to prevent basic chemicals from going down our rivers to the sea as sewage, to stop topsoil from being blown or washed away, and to put an end to devastating floods Soil, like any other natural resource, can be exhausted

While more attention has of late been given to problems of the soil, more concern has also been shown for the need of improving animal breeds From the early days of American history, farm animals were imported in the search for greater production The names of such dairy cattle as Jersey, Guernsey, Holstein-Friesian, and Brown Swiss indicate their European origins This importation of livestock meant that a selection was made at the time of purchase and that these animals were used selectively in breeding

These practices tended to improve American livestock, but they were as nothing compared with the great advances made in the twentieth century Then geneticists came to realize that certain parents had a special faculty for passing definite

characteristics on to their progeny, like a large milk production, large eggs, or large hams From this basic fact it followed that such parents should be used extensively in breeding, if production per capita of livestock was to be increased The well established pure breed associations tended to frown upon this doctrine, for it meant that less attention would be paid to characteristics of color and form which they had previously stressed Yet the idea of "proved' parents took hold, even in the associations and was greatly furthered by the development of artificial insemination On the farm of E Parmalee Prentice, a pioneer in this work, milk production per cow in the herd was increased by 30 per cent in twenty years and the number and weight of eggs per hen in his flocks were also increased 30 per cent in the same number of years

Finally agricultural science aided greatly in improving the health of animals by the control of disease, better veterinary practices, and better feeding The U S Department of Agriculture, established in 1862, the Experiment Stations, founded from 1875 onward, and the Department's Bureau of Animal Husbandry, created in 1884, played important roles here Through quarantines pleuropneumonia and Texas fever among cattle were practically eliminated and other diseases, like hoof and mouth disease, were brought under control Tuberculosis among cattle was almost wiped out by testing (begun about 1910) and slaughtering of infected beasts, and Bang's Disease is being reduced by similar methods and the innoculation of calves

Also the feeding of livestock became more scientific, more emphasis being placed on winter silage, a proper balance between proteins and roughage, and adequate vitamins These changes, along with better breeds and hybrids, increased the production of animals very measurably Thus one hybrid breed of poultry produced 17 per cent more eggs than its parents, crossbred swine were reported to mature in 5 per cent less time than their parents and to consume 5 per cent

less feed in the process, and Brahma-Hereford beef cattle not only produced excellent beefsteaks but also because of their resistance to thirst and heat could be raised where other cattle fared badly

In the case of dairy cattle perhaps the best records are available and the most astounding advances found In 1860 a cow that gave 4500 pounds of milk a year was an exceptional animal, but in 1890 a cow that did not give that much was on the way to the slaughterhouse, and in 1950 one that did not give 9000 or 10,000 pounds was usually culled from the better herds From 1910 to 1945 the livestock population of the country increased 45 per cent, while its production increased nearly twice as fast, that is, 80 per cent[8] Although there are limits to progress of this kind, what has been accomplished so far, and what can be realized if all farmers engage in the best available practices, is remarkable

V LABOR IN AGRICULTURE

With the increased use of scientific knowledge in farming, the average farmer had to be at least an amateur veterinary, entomologist, and agronomist With the increased use of machines, he had to be an amateur mechanic With the commercialization of agriculture, he had to be a bookkeeper if not a financier And in addition he had to be a carpenter, electrician, plumber, horseman, and a host of other things Certainly it was no longer correct, if it ever had been, to represent the typical American farmer as a clod or country bumpkin On the contrary he was a keen man, and sometimes a very well educated one in the bargain In fact, the farmer was about the only "universal man" left in a society of specialists And therein lay much of the attractiveness of farming

But whatever else the farmer was, he was also a laborer With the average of all farms, including those which were *not the chief support of their occupants, having* an income that fluctuated from $2600 in the good year of 1919 to $810

in the poor year of 1932, with one half of all the farms having an income of less than $1000 in 1929, and with farm owners constituting the largest part of the farm labor force, it is obvious that the average farmer was a worker Yet, although this is the case, discussions of farm labor have traditionally dealt with tenancy and hired hands, and we shall follow tradition

As has already been indicated, 42 per cent of farms were tenant operated in 1935, whereas in 1880 this percentage was only 25 6 The reasons for this increase were numerous In part it came from the fact that public lands were disposed of mostly in large blocks which were leased as well as sold to farmers, from the growing needs of farmers for more capital, as farming became more scientific and more mechanized, and the inability of farmers to provide the new equipment and to buy land

But it came also in part from excessive speculation in farm properties and from the pushing of farm owners off the land through mortgage foreclosures in periods when agricultural prices dropped precipitously or when the drought years of the weather cycle set in During the depressed years after 1873 when farm prices fell from an index of 137 in 1868 to 72 in 1878, at the time of the land speculation bubble of the 1880's when Western land values rose several times only to flounder, and after World War I when farm prices declined from an index of 215 in 1919 to 68 in 1932, land was certain to change hands Farm mortgage indebtedness, which was 10½ billion dollars in 1923 was reduced to 7½ billion in 1937 largely by foreclosure In 1939 46 per cent of tenants had been on their farms two years or less and only 18 per cent had been on their farms for ten years or more As a rule, tenant farms were small and tenant farmers earned amounts about equal to the daily wages of common laborers

Numerous as were tenants, however, they were outnumbered by actual farm laborers According to the census of 1930 there were 2,733,000 persons whose usual occupation

was working on farms for wages, or a little over a fourth of total farmers Apparently farm labor was becoming a smaller percentage of all farmers, having been estimated at 48 per cent in 1870,[4] but seasonal labor was undoubtedly becoming more important with the development of fruit, truck, and specialty crop farms and the mechanization of processes that supplanted labor for large portions of the years Some of the seasonal laborers came with machines to perform special tasks, like the wheat harvesting crews, equipped with tractors and combines, who every year start out in Texas and work northward as the wheat ripens But most of them were unskilled laborers, many being Mexican, who lived in poverty, worked at low wages, migrated from job to job, and were uncertain of employment At the height of the agricultural season there were in 1930 about one million seasonal workers, that is, over one third of all farm wage earners

Still another kind of farm laborer is the share cropper, who came into being after the Civil War in order to make the plantation system function without slaves Under share cropping the landowner makes a contract with a worker, frequently on an annual basis whereby the former gets a stipulated number of his acres cultivated as he would have them cultivated, the worker gets the use of land, and both share in the crops raised This system requires little or no capital on the part of the worker, but it keeps him under the control of the landowner Then another practice which holds the small farmer at the mercy of others is the crop lien system Under it a storekeeper or other person with surplus advances funds to the farmer, whether tenant or owner, in return for a lien on the crop raised and with a proviso that the recipient of the advance trade at the lender's store In 1900 there were said to be 402,000 white and 229,000 Negro share croppers, and in some districts, it was alleged, 75 per cent of cotton farmers operated under the crop lien system

Of whatever kind, however, farm workers never had a particularly easy time, for their wages were lower than those in industry and their hours were longer, although there was a decline in them from 72 per week in 1850 to 52 in 1940 Moreover, they were unable to organize effectively and were omitted from much of the legislation to remedy labor conditions on the ground that this legislation was not suitable for them or that it could not be enforced

For long the theory persisted that hired hands could not save enough to acquire a farm, but this theory of working up the agricultural ladder is open to serious questions and certainly to qualification. The costs of acquiring land and equipment were so high that if the farm laborer moved up, he usually first became a tenant or went heavily into debt Even when free land was to be had, some capital was necessary to get started Hence it is probable that most of the new purchasers of farms were farmers who were changing farms, or farmers' sons who were acquiring a farm, or hired men lucky enough to marry the boss's daughter or somehow to get financial backing

Then another theory has had a considerable vogue in American history—that free land provided a kind of safety valve for discontented urban proletarians in the East, allowing them to blow off steam by going West Numerous studies have shown, however, that industrial workers did not migrate Westward in periods of business depression and that few industrial workers actually went to farming Most of those who took up land were farmers, and they seem to have moved in several jumps in fairly straight lines from East to West, being drawn by "intervening opportunities between their starting points and their final destinations Thus Westward expansion provided, at least, some outlet for discontented Eastern farmers Also it created opportunities in the West for urban employment, for sight should not be lost of the fact that about 47 per cent of those gainfully employed in

the Trans-Mississippi West as early as 1870 were in non agricultural pursuits

The fact is that fewer opportunities for diminishing pent up social pressures were provided on the land than in the cities Cities grew more rapidly than rural areas and there was generally in this period a movement of population from farms to cities In the decade of the 1920's, some 6,000,000 persons are estimated to have moved from farms to urban areas, and even in the depressed 1930's the trend continued, although at a diminished rate In spite of such movements, however, the very low incomes of many farms and the rise in farm production by 22 per cent from 1939 to 1944 with only a 4 per cent increase in labor requirements, indicate that a considerable amount of labor on farms is under utilized or uneconomically employed

VI AGRICULTURAL FINANCE

The growing commercialization of American agriculture after 1850 meant that farmers were increasingly dependent upon the state of the market for the success of their operations Large crops that filled barns and larders were not enough—there had also to be good prices for these crops If *more farm goods were produced than could* be sold at a profit, the farmer could not hold them off the market, as could most industrialists, for his goods could not keep indefinitely, and he usually did not have enough surplus to allow such practices Usually he had to sell whenever his products were ready for market

Nor could farmers do much to control the supply of goods to meet demand, for such controls required prior agreements regarding acreage to be planted Furthermore, it is much more difficult to regulate the supply of growing things, especially those that mature in more than one year like beef-cattle, than it is inanimate objects the production of which may be started or stopped with relatively little loss Once

the farmer has a crop in the ground, he has to see it through to maturity or he gets nothing out of it

Because of these peculiarities of farming, the farmer was particularly hard hit when agricultural prices collapsed We have already made reference to the fact that prices of farm products fell drastically after the Civil War[5] Now we should add that they fell more rapidly than the prices of those things which the farmer bought These comparable "terms of trade,' as they would be called in international trade, resulted in particularly depressed conditions in agriculture Farms changed hands rapidly, foreclosures were numerous, and farmers became both discouraged and belligerent In their predicament they joined in such action groups as the Grange, which had a membership of 1 500 000 in the spring of 1874, and the National Farmers' Alliance with a membership of 100,000 in 1880

In their search for remedies to their plight they opposed the deflationary monetary policy pursued after the Civil War and advocated the continuation in circulation of unsecured currency issued during the Civil War (the famous Greenbacks) and the free coinage of silver These efforts to raise prices in order to relieve the burden of farm debt contributed to the continuation of 346,681,016 of greenbacks in circulation and to the passage of the Bland Allison Act of 1878 that was to increase the amount of silver coins

Furthermore, farmer groups attacked high railway rates, discriminatory rates, and poor service They complained that the Burlington charged nearly four times as much in 1877 for hauling west of the Missouri as east of it, that James J Hill would not ship grain from elevators of less than 30,000 bushel capacity, that some roads charged twice as much as others for the same service, and that cattle cars were left long hours on sidetracks where there was no water or feed These complaints finally got results, as for example, in the establishment of rate regulation (adopted by Minnesota in 1871), in establishing the constitutionality of such regulation (Mann

vs Illinois), and in getting the Interstate Commerce Commission created in 1887 to deal with interstate commerce

Farmers also tried to improve their lot by establishing co operatives, by supporting the Populists in their efforts to get cheaper money in the early nineties, and by getting better credit facilities Some success was had with cooperatives and some merchants catered especially to farmers (Montgomery Ward and Co started business in 1872 to deal with Grangers), but cooperatives did not assume a large enough role to make much of an impression on the total scene To be sure better credit facilities were provided under the terms of the Federal Farm Loan Act of July 17, 1916, but what really aided farmers was the rise in prices after 1895 and the exceptionally advantageous spread during World War I between what the farmer had to sell and what he bought

Yet the remarkable farm prosperity of World War I had its unfortunate aspects and an unhappy aftermath During the War years, and immediately thereafter, land was cultivated that should have been left in cover crops, farmers bought land at sums which were not justified by prices for products produced, and they went into debt to acquire equipment or to obtain some of the luxuries their unaccustomed prosperity made possible In 1920 farm mortgage debt was 29 1 per cent of the value of farms, but in 1925 it was up to 42 per cent Agricultural prices, however, went down, from an index of 215 in 1919 (1910-1914 = 100) to 156 in 1925 and to 68 in 1932, while prices farmers paid for things fell from an index (on the same base years) of 198 in 1919 to only 165 in 1925 and to 124 in 1932

The results of this situation were calamitous Farm mortgages were foreclosed wholesale and farms were sold at bankrupt prices In 1934, it is estimated, 27 8 per thousand mortgaged farms were foreclosed and $1,300 000,000 of loans were refinanced by Federal Land Banks and The Land Bank Commissioner So disastrous was the situation that farmers had recourse to force to prevent foreclosures, intimidated

prospective buyers from acquiring land at the expense of their fellows, and sometimes bought up foreclosed property when put up for auction for a song and gave it back to the original owner

Through such organizations as the Farm Bureau, which had been founded in 1911 and which had been instrumental in creating the "Farm Bloc" in Congress, farm interests demanded government intervention to alleviate their burdens Although their demands were sometimes extravagant and they appeared at times to be even more self centered than members of other pressure groups, they had in 1934 a legitimate case to place before the government Undoubtedly the state was the only agency of society large enough and willing to deal with the farm problem

VII STATE INTERVENTIONISM IN AGRICULTURE

The plight of American agriculture in the 1930's was not the beginning of the Federal government's concern with the agricultural situation As we have already seen, the state advanced agricultural science and fought agricultural diseases, it inaugurated a program of soil conservation at the beginning of the twentieth century, and it provided credit to agriculture in World War I But all that had ever been done by the state for agriculture was next to nothing compared with what it did from 1932 onward

One of the first measures of the New Deal was to establish the Agricultural Adjustment Administration in order to bring production more nearly into line with demand and to correct the "disparity" between the prices which farmers got for their products and those which they paid for goods brought to the farm, a "disparity" that from the base period 1910-1914 to 1932 worsened the position of the farmer by 45 per cent (See table 13) This was to be done by placing a tax on food processors, for example 30 cents a bushel on wheat milled, in order to get a fund which could be used

to pay farmers who would voluntarily reduce their production

This restriction policy was criticized bitterly in many quarters as "little pigs" were slaughtered, big land companies got huge payments for *not* raising crops, and some agricultural prices became so high in the international market as to hurt exports Nevertheless, agricultural prices did rise and the economy was climbing out of its period of deep depression, when in 1936, the Supreme Court declared the AAA unconstitutional on the ground that the Federal government was infringing states' rights in controlling production

Immediately a substitute law was passed, the Soil Conservation and Domestic Allotments Act (1936), which provided for payments to farmers for diverting acreage from overproduced crops to soil conserving crops and for adopting soil building practices Then in 1938 a new Agricultural Adjustment Act was enacted which continued soil conservation plans, but which attempted to maintain parity prices Thus acreage allotments for cotton, corn, wheat, tobacco, and rice aimed to support prices rather than to promote conservation, and growers of these crops got soil conservation payments only if they kept within their quotas Furthermore, the Act had in view the establishment of an ever normal granary Commodity loans could be made to farmers for storing surplus in big years, and loans were mandatory to growers of wheat, cotton, and corn if prices fell to fixed low points Also, if two thirds of farmers agreed, marketing quotas were established and those who exceeded the quotas were heavily fined Finally, parity payments were made to producers of the five leading crops, if the relationship between farm and industrial prices fell below 75 per cent of the 1910 1914 average

In addition the Federal government took steps to diminish the foreclosure of mortgages, the sale of good farms because of financial adversity, and the continual poverty of those on

submarginal lands The Farm Credit Administration, created in 1933, brought together government agricultural loan agencies and made loans to farmers who needed assistance but could not get it through ordinary channels Then the Resettlement Administration, established in 1935, tried to rehabilitate poor farmers by settling them on better lands The Federal Emergency Relief Administration and the Public Works Administration made jobs on roads and other public works available to farmers And the Subsistence Homestead Division of the Department of the Interior tried to establish industrial workers on small plots near urban centers From 1933 to 1936, $3,700,000,000 in loans was made by the Farm Credit Association, and rural relief amounted to $1,200,000,000, about 17,000 submarginal farmers had been relocated, and states and the Federal government increased through purchases of poor farms their holdings in parks by 16,000,000 acres and their forests by even more

Under the New Deal, then, much was done to alleviate the plight of the farmer and to prevent civil disturbances connected with farm foreclosures In general a serious effort was made to keep assistance on a business basis--to get agreements between creditors and debtors for a mutually satisfactory solution of their problems, to make loans that could be paid, and to resettle people so that they would not eternally be public charges But the task to be accomplished was so large and so urgent that mistakes were made, waste was obvious, and paternalism indulged in

With the outbreak of World War II, agricultural prices began to climb and the financial situation of the farmer to improve From 1939 to 1945 wholesale agricultural prices doubled, whereas all commodities went up only about 30 per cent Farm income increased from about 5 billion dollars in 1940 to 13½ billion dollars in 1945, land under cultivation was increased and soil was badly exploited A repetition of what had happened during and after World War I was generally feared

The aftermath of the war was not, however, so disastrous as was thought probable For one thing, Europe's need for American foodstuffs continued longer than it had after 1919 and was satisfied in part through Marshall Plan aid For another thing, the Farm Credit Administration had acquired valuable experience and accompanied its loans for better farm practices by advice and close supervision And finally, the government consistently sought to maintain "parity prices" for agricultural goods by the control of crop acreage and through purchases by or loans from the Commodity Credit Corporation Yet the level of farm prices which fell in 1948 turned upward in May of 1950 just prior to the War in Korea and the accompanying inflationary movement In spite of this fact, however, it seemed that state intervention in agricultural affairs had come to stay as a regular function of government Thus some of the fundamental disadvantages of agricultural operations under capitalism could be mitigated

VIII THE EVOLVING AMERICAN DIET

Despite the importance of landholding, production, and financial problems in agriculture, what is actually grown and ultimately consumed as food is determined in large part by the dietary habits and nutritional knowledge of a people In general, in the middle of the nineteenth century the typical American diet had a relatively large amount of meat and highly refined flour, which with the cold winters and hot summers gave Americans a rather "pasty look," at least according to some foreign observers [6]

Immediately after the Civil War, however, the diet began to change Rail transportation of milk increased the supply and improved the quality of that product to urban centers, cold storage and refrigerator cars made possible the greater consumption of fresh vegetables, fresh fruits, and fresh fish, and commercial canning extended the range of appetizing

and healthy foods Subsequently food statistics indicated an increased consumption of dairy products, fresh fruit, fresh vegetables, sugar and syrups, coffee, tea, cocoa, and spices Decreased consumption was shown for meats, potatoes, and grain products By and large the American diet continued to reflect a considerable reliance upon animal products rather than on grains, which meant that a relatively large acreage had to be devoted to feeding the American public While a grain and fish diet, as in Japan, requires only ¼ acre of high yield crop land and no pasture per capita, the American diet requires about 2½ acres of cropland and 10 acres of pasture per capita Also it indicated a shift toward the so called "protective foods," toward those high in vitamins and proteins This change was greatly furthered by food inspection (the Pure Food and Drug Act was passed in 1906), by the increasing use of mechanical refrigerators, some 21,132,000 million being in use in households in 1944, and by the development of frozen foods, both industrial and home Indeed after World War I a food revolution took place that was reminiscent of that after the War between the States The output of food-manufacturing industry quadrupled from 1900 to 1940, the work of the housewife has thereby been lightened, and packaging has reduced waste

Fortunately most of the major dietary changes which have taken place since the middle of the nineteenth century have resulted in better nutrition for the population In part, these shifts have taken place because of a preference for the new foods to the old, but, in part, they have been made because the new foods were advocated by nutritionists From early in their history, indeed, Americans have shown a willingness to heed the warnings of those who preached dietary reform, from Sylvester Graham, in the 1830's, who advocated more bulk in the diet and who introduced the Graham cracker as an American staple, to the Bureau of Nutrition and Home Economics of the Department of Agriculture at the present time Apparently American dietary customs were not so

deeply ingrained but what they could be changed in the interest of better health

Because of this flexibility of diet Americans were the victims of quacks and fads At one time they stuffed themselves with roughage to enliven the "lazy colon" and at another masticated (fletcherized) their food to such an extent that they could not avoid constipation They filled their children up with spinach in the 1920's under the exhortation of "Popeye the Sailor Man" of radio and movie fame and watched with eagle eye the vitamin intake of their offspring in the 1930's

But much of what the people were taught was for their good The *Fannie Farmer Cook Book*, the standard American cook book, which, along with many others was widely sold, carried menus that were well balanced and in the tradition of most recent nutritional developments, home economics began to be taught in the 1880's, and Sears, Roebuck and Co sold food by mail order in the first part of the twentieth century and thereby educated country people in nutritional matters

The drinking of milk was greatly expanded with the coming of pasteurized milk, popularized by Nathan Straus in the 1890's, the eating of citrus fruit and the drinking of fruit juices for breakfast was developed with a realization of the existence of something akin to vitamins in the first part of the twentieth century, and more attention was given to well-balanced diets and protective foods in the 1930's Women's magazines, advertisements of the more responsible companies, consumer research organizations, the feeding of soldiers in the two World Wars, and instruction in educational institutions taught the American people proper nutrition And more than that the food relief programs tried to give people a taste for and the habit of eating healthful foods Some of the food stamps distributed by the Federal Surplus Commodities Corporation were so designed that the food obtained by means of them would provide a balanced diet, while the School Lunch Program and the Penny Milk Program furnished only

what was to be desired in the diets of the young In March, 1940, some 15,000,000 persons were being reached by these government projects and were thus having their eating habits changed for the better

If increases in the stature of individuals is an indication of good nutrition, then there is statistical evidence of the quality of the American diet, at least among the relatively well to do Boston schoolboys were on the average three inches taller in 1926 than in 1876 and both Harvard and Amherst College students have also increased in height over the last hundred years American girls have also increased in size, at least in World War II when uniforms for Wacs and Waves were ordered in size lots according to English experience, there were not enough large sizes to go around and many of the young ladies in the armed services were for some time without regulation garb

Apparently the diet of Americans ranks among the best in the world from a health point of view, even though the food may not be prepared in the most palatable of manners or eaten with the leisure requisite for full enjoyment and although there are large numbers in the lower income brackets who are inadequately and improperly fed By increasing the energy and reducing the time lost from work on account of illness, it has contributed directly to the production per capita of occupied persons By being produced in a manner that requires fewer man-hours per unit of output than any other country, it has given the population more time for the enjoyment of the benefits of civilization By being fairly adequate in all strata of society it has contributed to a more orderly society and to freedom from want

chapter

5

TRANSPORTATION AND TRADE

I THE ROLE OF COMMERCE IN ECONOMIC PROGRESS

In any attempt to isolate the chief factors of economic progress and to determine their strategic importance in American development, especial attention must be given to transportation and trade, for historical precedent indicates that they are essential to conditions of economic advance At least the earliest civilizations of which we have knowledge developed along rivers, like the Nile, the Tigris and Euphrates, the Indus, and the Yellow, where soil was rich enough to produce a surplus for exchange and where it was easy to carry goods relatively long distances to "market" In fact, all of the great civilizations appeared where transportation and trade were highly developed Greece had the Aegean, Eastern Mediterranean, Adriatic, and Black Seas upon which to bring in raw materials for processing and by which to ship out finished products Rome used all of these bodies of water as well as the Western Mediterranean and in addition built excellent roads to tap the resources and markets of the whole Empire And Western Europe had a thriving commerce on all the seas which surrounded it, along land routes which criss-crossed the Continent from north to south and from east to west, and after the end of the fifteenth century upon all the seas, all of the oceans, and most of the navigable rivers of the globe

Logically, too, as well as historically, transportation and trade are of fundamental importance in economic growth Because of the uneven distribution of natural resources, there has to be an exchange of goods if men are to advance in economic well being For example, the fact that salt is found only in widely dispersed mines and in the sea has meant that there has had to be trade in this commodity so that man could have seasoning for his food, and the location of metals primarily in mountainous areas has meant that there has had to be an exchange of iron and steel for products of the plain, so that plainsmen could enjoy the advantages of metal tools and weapons

Nowadays that men's needs are so diversified commerce has had to be multiplied thousands of times over what it was in primitive societies It may be, for instance, that the paper on which these words are printed came from woodpulp produced in Canada or Finland, that the ink came from Illinois coal tar, that the type was cast from alloys from Colorado or Montana metals, that the book was printed on presses made from steel derived from Mesabi iron ore, and that the binding was woven from cotton grown in Texas Even such a simple product as a book involves materials which have been carried thousands of miles and which have changed hands in hundreds of business transactions

Furthermore, transportation and trade are of particular significance here, for they are direct agents of civilization It is on account of them that men have been able to exchange ideas as well as goods, and this exchange has been fundamental in the formation of styles of art and bodies of knowledge It was through trade that Rome was able to build its artistic and intellectual life on Greek models, it was through trade that Western Europe was able to construct its law codes after Roman precedents for the more orderly conduct of human relations, and it was by trade that America was able to draw upon all of Europe's techniques for extending control over physical environment Even within cultures, centers of civili-

zation have always been the great centers of transportation and trade, like Athens, Rome, Florence, Paris, London, and New York

In the case of American economic development transportation and trade have played exceptionally important roles for the country is exceptionally large, its natural resources widely distributed, and its early centers of population far removed from subsequent areas of economic growth Indeed, it is not too much to say that the major problem which has constantly faced the American economy has been that of overcoming space

In its conquest of terrestial space America has done remarkably well, for it has created a transportation system where costs in terms of man hours of work are the lowest in the world Furthermore, it has erected machinery for distributing goods which is one of the lowest in cost of any in the more economically advanced nations

In all of the present-day economies in which a very high income per capita is attained, a relatively large portion of the working population is engaged in transportation distribution, and finance, for it is only in this way that an extensive division of labor is possible In the case of the United States a high percentage of the labor force was thus employed, 11 per cent in 1870 and about 23 per cent in 1940

II INTERNAL WATERWAYS

Up until very recent times the most extensive movement of goods took place upon inland seas and internal waterways Even in the early part of the so called industrial revolution in Europe most goods moved by water and there was feverish activity to extend facilities of water transport by building canals In the United States the construction of the Erie Canal, which connected the Great Lakes with the Hudson River and which was opened to traffic in 1823, is a case in point Even as late as 1860 more freight was moved by the

Canal than by the New York Central, Hudson River, and Erie railroads combined It was by steamboat transportation on the Mississippi River system, well established by 1820, that a wilderness was opened and that the steam engine was popularized in America[1] And it was by coastwise shipping, always more important in total tonnage than that on inland waterways, that goods moved north and south or through the Gulf of Mexico

In the early days of river boating, most of the traffic was by flatboats or barges *downstream* In fact, before the coming of the steamboat probably the amount of traffic upstream on the Mississippi was barely 10 per cent of that coming down The steamboat changed all this It took goods to the farthest reaches of the great river and its tributaries and on its return brought products of the entire basin to the bottleneck at New Orleans That city grew at a breath-taking rate, the steam tonnage clearing through its port in 1843 being twice that of all tonnage passing through New York harbor Also shipping on the Great Lakes expanded rapidly with the advent of steam, amounting to 393,000 tons in 1860, and that on the coasts reached nearly 5 million tons in the same year

The great north south movement of goods by the Mississippi system was, however, early challenged by the Erie Canal and later by the railroads The great Canal across New York state from Buffalo to Albany was a success from the first As early as 1838 more grain was moving across the Great Lakes to Buffalo than was passing through New Orleans and by 1860 the Canal was carrying two and a quarter million tons a year But by the latter date, however, the heyday of canals was over and that of river transportation was nearing its end The future was with the railroads

III RAILROADS

Railroad building in America got under way in the 1830's and was, as in Europe at the time, confined to short sections

which connected existing centers of population In the decade of the 1850's railroad mileage grew from 9,000 to 30,000 and people began to awaken to the possibilities of this form of transportation for the opening up of a vast area that was not reached by rivers Although railroad construction was retarded by the War of Secession, there was a boom in building from the conclusion of the conflict to the Panic of 1873, when about 35,000 miles of track were laid Then after a five year hiatus, expansion began again and continued until the total mileage of track was a little over 400,000 (1920) By the turn of the century railroads had become so successful that the Erie Canal was carrying only about 5 per cent as much freight as competing railroads

In general, American railways were built without any over-all, national plan Prior to the Civil War, the local nature of railroading and sectional rivalry and after the war the scramble by railway builders for charters and by local interests for railway services precluded the adoption of a rationally conceived network of lines The Federal government's chief control over plans was the granting of public lands to those who would build roads to certain places and the main check of states was exercised through land and money subsidies and through the granting of charters As it turned out public assistance was so bountiful, especially after 1865, that lines were built out into the wilderness where little if any carrying business existed Although railroads required, it was estimated, about 850 population for each mile of track in order to operate successfully, the number of people per mile was only 590 in 1873 and west of the Mississippi only 427 in 1876 It was generally believed that the "toot" of a railway whistle would open up a territory to settlers who would give the line ample business, and to a considerable extent this popular notion was in the long run not far from the mark

The construction of railways required what was for the time an enormous amount of capital and the building of lines in unsettled regions was especially risky Under the circum

stances it is little wonder that railroading attracted financial buccaneers and made possible the most extraordinary *coups* Perhaps what was possible can best be illustrated by the case of the Union Pacific and Central Pacific railroads The former starting from Omaha, Nebraska was to work westward to meet the latter, which started from San Francisco Congressional charters were granted to the two companies in 1862, which, as amended, granted the lines alternate sections of land twenty miles deep on each side of the right of way, or twenty square miles for each mile of road In addition the companies were given government loans on second mortgages and were permitted to borrow private capital on first mortgages. Under the terms of the charters the more a company *built*, the more it got But not satisfied with these provisions, the financiers let out the actual building at exorbitant prices to construction companies which they controlled The most famous of these, the Crédit Mobilier, got at least 30 per cent more than the job cost By the time the two lines met at Promontory Point, Utah in 1869, it was estimated that through financial manipulation the financiers had covered the cost of their lines and equipment and in addition had made a profit for themselves of $25,000,000

Hardly less fanciful than this were the antics of Jay Cooke in starting the Northern Pacific, the amassing of the first colossal American fortune by Cornelius Vanderbilt through railway deals, and the cutthroat practices of men like Jay Gould and Jim Fisk In general, the building of American railroads was an expensive proposition It took, in addition to private capital, much of which was British, government loans, high railway rates, and 183,000,000 acres of land in grants

In spite of the reckless manner in which American railways were built and operated in the latter half of the nineteenth century, the fact remains that they proved to be cheaper carriers than most inland waterways and that they contributed mightily to the economic development of the country Ton miles of freight carried by them increased from one billion

per month in 1870 to 31 billion per month in 1940 Moreover, they captured the imagination of the people Not only were they lauded in song and story, but all American youngsters wanted to be conductors or engineers when they grew up, both young and old watched admiringly as the daily "Cannonball'" belched out its clouds of smoke or shrieked its whistle as it pulled into the local station, and crowds of investors, both the shrewd and the ignorant, plowed their funds with abandon into new lines and equipment

Gradually railroading became much more efficient than it had been in its early days Consolidation of lines, particularly during the 1880's and 1890's under the guiding geniuses of men like E H Harriman and J P Morgan, and the standardization of gauges in the 1880's made through services more general, except for passengers in places like Chicago, and transshipments a thing of the past Thanks to reductions in the price of steel effected by the adoption of the Bessemer process, steel rails began to replace iron ones in the 1880's, which added to the safety of trains, permitted heavier loads, and allowed greater speeds The Westinghouse brake, particularly the automatic device of 1872, block signals (1864), and the automatic coupler (1889) greatly reduced railroad accidents and contributed to railroad efficiency In 1862 the trip from New York to Chicago took 36 hours, but in 1905 it was made in 18 hours Railroads improved the services rendered to shippers and reached a point where they could underbid canal or river shippers except on products of great bulk and of low value per unit of weight In fact by the end of the nineteenth century some canals were being abandoned and towboats began to replace the picturesque steam packets of an earlier day

Unfortunately railroad operators took excessive advantage of the strong position which they held They discriminated against shippers in districts where there was no competition from other lines or from waterway carriers, they often charged lower rates for long hauls than for short hauls on the

same lines simply because there was competition from points involved in the long hauls, they gave rebates to favorite shippers, they engaged in rate wars to force competitors out of business, and they formed pools to maintain rates, to divide the carrying business, and to distribute earnings So offensive were many of their practices and so helpless were customers before them that there developed a movement for both state and Federal regulation of railways This movement was originally spurred on by the farmers in the 1870's, for they became sick and tired of seeing the railroads nonchalantly delay their shipments until they were ruined, of paying high rates, and in getting as an answer to their complaints, "the public be damned"

The initial efforts at curbing railroad abuses were not particularly successful Although the Interstate Commerce Commission was created in 1887 to prohibit them, court decisions were so favorable to the railroads and human ingenuity devised so many ways around the Commission's rules that the evil practices continued to the twentieth century Finally by the Hepburn Act of 1906 the Commission was given power to fix rates on the complaint of an interested person, by the Mann Elkins Act of 1910 it could postpone the application of new rates, by the Esch Cummins Act of 1920 it could use the rule of fair return in its rate fixing, and by the Act of 1933 it was able to approve rates designated to increase the movement of goods By this last date most railroad abuses had been done away with, but the rails by then were up against real competition from other carriers and had to change their attitude

IV TRUCKS AND BUSES, PIPELINES, AND INLAND SHIPPING

While transportation on rivers, lakes, and canals and along the seacoasts permitted the first large-scale economic development of vast areas of the United States and railroads so greatly intensified transportation that the element of distance

in economic considerations was cut many fold, it remained for the truck to provide an exceptionally mobile means of transportation that could reach at low cost remote places which were inaccessible to steamboat or train Thus the coarse strands of inland waterways were first connected with a net work of railroads, and this web was still further filled in with the fine lacework of trucks and buses

Some idea of the transformation in carrying which was brought about by the internal combustion engine can be had from the fact that motor vehicles had become by 1940 the chief means of passenger travel, accounting for nine out of every ten passenger miles of travel outside of cities and for three out of every four within cities Motor trucks carried in the same year about a third as much intercity freight as did railways, but in addition they did an enormous amount of local hauling By 1945 there were over 3,000,000 miles of non-urban roads, of which about one-half were surfaced, as compared with only a little over 10 per cent surfaced in 1920 (See table 16)

To some degree motor vehicles cut into the business of existing carriers, automobiles and buses accounting largely for the fact that passenger miles on railways declined from 42 billion in 1916 to 23 8 billion in 1940 But the economically significant point to be observed with the introduction of new carriers was the manner in which different forms of transportation came to supplement each other and thus to provide a division of labor in carrying For example, the motor truck became especially effective for short hauls, for carrying which by alternative methods would involve high handling or transfer costs, as in the case of household goods, and for routes where the amount of traffic was not steady, as in lumbering operations where once a forest is cut there is nothing to carry until it grows again The private automobile and bus were similarly excellent for short hauls and where traffic was not dense, as in commuting and in the carrying of school children in rural areas.

Railroads maintained, however, a strong position in carrying heavy loads for long distances where a fair amount of speed is desirable and where traffic is in large enough volume to warrant capital outlays And inland waterways retained a place in the economy by carrying bulky goods of low value, like cotton on the Mississippi and iron ore and grain on the Great Lakes, and they stood to gain as routes were improved in conjunction with power projects, as on the Tennessee River and in the Saint Lawrence River project Finally the airplane has become established as an economical carrier of high value goods over long distances, and the pipeline has found a place for the transportation of bulk fluids, particularly petroleum and natural gas, for which a steady flow is required

Although these different means of carrying have their respective virtues, they vary widely in cost Thus in the early 1940's carrying on the Great Lakes was 0 05 cent per ton mile, exclusive of terminal charges, on the Mississippi 0 2 to 0 5 cent, by oil pipeline 0 38 cent, by rail 1 cent, and by truck 3 to 4 cents These costs were extremely low, that on the Great Lakes being the lowest in the world and that on American railways being the lowest in terms of labor employed [2]

Cheap carrying permitted the United States to conquer its greatest economic handicap—space It made possible the bringing together of widely dispersed raw materials for processing It allowed producers to sell their wares throughout the entire national market It permitted the decentralization of industry as against centralization in congested areas And it fostered a division of labor which is a condition of high production per worker and hence of economic well-being In spite of traffic tie-ups which bring out the worst in man, improved transportation continued to be a direct contributor to civilization

V THE DISTRIBUTION OF GOODS—DOMESTIC COMMERCE

The development of transportation greatly increased the use of money as a medium of exchange More and more people expected to get money for whatever they had to sell, whether it was their labor or what they produced, and with money to buy a variety of things in the market People became less economically self-sufficient, and consequently there was a great increase in the flow of goods This growth of commerce led to fundamental changes in the organization of distributing goods

With the expansion of the market, processors of basic, staple commodities needed to buy in larger amounts than had formerly been the practice and they needed to be sure of a steady supply of goods to keep their factories busy To meet these requirements produce exchanges came into existence, the Merchants Exchange in St Louis being founded in 1850 and the New York Produce Exchange in 1862 Grains and cotton were usually the first goods to be dealt with in this manner, but subsequently a variety of products from coffee to rubber had exchanges of their own

These institutions, by providing places where producers and processors of goods could buy and sell, made possible the establishment of prices for both immediate ("spot") and future deliveries ("futures"), and these prices helped to adjust supply to demand Furthermore, the exchanges made possible the practice of "hedging," which permitted a processor of raw materials to protect himself against sudden price changes Under this system a tire manufacturer, for example, could buy a given amount of rubber at the current price and at the same time sell at the current price an equal quantity "short" for delivery in the future If prices went down, he made a profit on the short sale, for when he came to make delivery, he would be paying less for the actual goods than what he sold them for, but he would be losing an equal

amount on the present purchase, because when his finished product went to market it would have to show (theoretically at least) a decline in price On the other hand if prices rose, he made a profit on the present purchase and took a loss on the short sale In thus minimizing the effect of price changes, the processor eschewed speculation and sought profits only from his manufacturing

Useful as the exchanges were, however, they made possible one major abuse—the "cornering of the market," that is, the establishment of a temporary monopoly of a given commodity Because of the concentration of trading at a given place, a buyer or group of buyers working in concert could get ownership of all available supplies of a product and then demand exorbitant prices from those who had to purchase it —usually bonafide users of the commodity

Corners were attempted most often in cotton, wheat, and meat, but in 1919 and 1920 a particularly dramatic corner was tried in sugar In August, 1919 sugar was selling at retail for 10 cents a pound, when rumors began to be spread that the crop that year was short and that retailers would be limited in the supplies which they would get Prices of sugar were subsequently bid up until in the spring of 1920 they reached 35 cents a pound retail, housewives were buying as little as they could and keep their children reasonably quiet, and those in on the "corner" were making a killing Then the news leaked out that supplies were actually abundant, whereupon prices dropped, and the cornerers" who had not sold their sugar holdings were badly pinched Fortunately such temporary monopolies came actually to be prohibited by the Commodity Exchange Act of 1936 and have ceased to be a burden on the economy

Along with the development of the exchanges and the market economy, a great fillip was given to wholesaling, for retailers, who were forced to carry a greater variety and quantity of goods, needed stocks in nearby centers from which they could quickly replenish their own inventories

Subsequently, however, with greater speed and mobility in transportation and with greater concentration in production, wholesaling suffered a relative decline Retailers were able to get supplies with dispatch from manufacturers, producers of expensive products, like automobiles, found that it was to their advantage to maintain their own branches or to sell directly to retailers, and some large retailers, like chain grocery stores, had their own manufacturers In 1929 less than half of the sales to retailers were by wholesalers, and in 1940 wholesale trade contributed only about half as much as retail trade to national income

By far the most important of the service rendering segments of the economy to have resulted from an increased division of labor and a greater use of money was retailing Here the tendency has been toward larger sized units, because costs are in direct proportion to volume of business and because the increased mobility of the buying public through the use of automobiles has led it to seek the better stocked and lower priced stores

One of the first steps toward retail establishments with a greater variety of merchandise and with a large volume of sales was the department store The first one of them in America was that of Alexander T Stewart, who opened the doors of his emporium in New York in 1861, and that of John Wanamaker in Philadelphia came shortly thereafter Then followed the distinctively American mail order houses Montgomery Ward having begun operations in 1872 and Sears and Roebuck in 1893 And finally chain stores put in an appearance, a form of outlet which was particularly successful in sundries (the "five and dime') and in groceries In 1930 department stores did some 8 64 per cent of all retailing and chain stores about 15 per cent of it The latter did so well indeed, that other retail interests managed to get some states to levy special taxes upon them (laws which were usually declared to be unconstitutional) and to arouse the Department of Justice to sue them for being monopolies in restraint of

trade But they operated so efficiently that they withstood all attacks and kept on growing

In spite of improvements in retailing effected by these establishments and despite the fact that American retailing is carried on in terms of wages paid employees at lower costs than any other in the major countries of the world, many undesirable practices continued to badger the business Perhaps the most serious difficulty is that too much credit is given to customers, for retailers are so anxious to maintain a large volume of business that they lean over backward to grant the favors demanded of them Thus they extend credit to persons who are bad risks, they do not require the regular payment of charge accounts, and they indulge in excessive installment selling The results are that merchants have large losses from poor credit risks, or insure credit at high costs, or perform the services of bankers for their clients

Then in some cases the manufacturer either fixes the retail price of his product or "recommends" a price, and these prices are put high in order to make the retailer think that he will make a large profit if he handles the product, or to protect the less economical distributor These things help to retard the adoption of a policy of large volume and low prices and, along with the fact that the older sections of the country are well served with retail establishments, help to explain why about half of new retail businesses last only two years and why in 1944 21 7 per cent of new stores folded within a year

Still another aspect of distributing goods is advertising Beginning with the early newspapers, it took the form at first of discrete insertions bringing this or that product to the attention of the public and mildly lauding its virtues with anecdotes or stories As newspapers reached an even larger number of persons and became more blatant, advertising followed suit Claims became more extravagant and were screeched at readers in banner headlines "Pink pills for pale people," "elixirs of life" high in alcohol content, and soothing syrups for babies with generous amounts of opiates in

them, were the delight of the anemic spinster and the har assed mother 'Gold bond' insurance policies which were safe from any tampering with the monetary system by "funny money" advocates, stocks and bonds in non-existent copper mines, hair growers which would produce a lush growth on the most stubborn pate, horse medicines which would rejuvenate 'old Dobbin" and which taken on the sly by 'Cyrus' did an equally good job on him, raked in the dollars of gullible males

With the coming of the automobile, roadsides were plas tered and views were hid by great billboards urging travelers to eat a certain kind of breakfast food if they wanted to be able to jump out of bed full of vim, vigor, and vitality, to 'shave with a certain brushless cream, if you want shaving to be a dream,' and to put up at "High Point" to get the beautiful outlook With the radio, sky-writing, and television the unseen audience was forced to listen to or look at eternal reiterations of the virtues of chewing gum, soap powders, or furs, to be subjected to a commercial in the midst of a symphony, or to witness a demonstration of a miracle clothes washer in the middle of a baseball game

Yet with all its ridiculousness and annoyance advertising had another side It made possible many of the broadcasts to which the most critical could not object and it helped support newspapers, over half of their income coming from adver tisers rather than from readers It had an educational function in making the buying public aware of what was on the market and in presenting specifications which allowed one to judge quality It became more honest, especially after the Federal Trade Commission was established (1914), when fraudulent claims were prevented by law And economies in advertising were realized by "institutional advertising," that is, advertising by a group of companies selling a fairly stand ard product, like life insurance, a practice that was fostered by trade associations

VI FOREIGN COMMERCE AND COMMERCIAL POLICY

Although domestic commerce has exceeded America's trade with foreign areas many-fold, foreign trade having been responsible for only 7 or 8 per cent of national income in most of the period since 1865, foreign commerce has, never theless, played a strategic role in American development It was through foreign trade that America was able in its early days to get the manufactured goods which it needed, it was through the anticipation of exports that it was able to borrow capital from abroad, and it was through trade that it obtained the raw materials which it lacked

In general, American foreign trade expressed in current prices, has remained a fairly constant percentage of national income since 1900, the exceptions being the two World Wars and the depression of the 1930's, but there have been important secular shifts in classes of goods traded and the amount of commerce with specific areas As one can see in tables 17, 18, and 19, there has been an important shift in exports from crude materials and foodstuffs to manufactured goods, and in imports, from finished products to raw materials, there has been a decline in American trade with Europe and an increase in that with the Western Hemisphere, and there has been a great growth in America's share of world trade

The great expansion of world and American commerce in the nineteenth century took place under a system of "multilateral' exchange, that is, a system whereby, for example, exports from America to England might be paid for by rubber imports from Malaya and the rubber from Malaya be offset by Malayan imports of machinery from England This arrangement made possible an international division of labor with the more advanced industrial nations importing foodstuffs and raw materials from and exporting manufactured goods to less economically developed areas.[8]

The chief impediments to the functioning of this vast net work of trade up until the deep depression of the 1930's were tariffs Although duties were lowered by European nations in the early 1860's, the trend of protective rates was upward after the economic depression of 1873 Most European states wanted to protect their traditional agricultural crops from overseas competition, and overseas lands, notably America wanted to get the advantages of industrial production It was clear that greater exchange value per unit of human "input,' or energy expended, could be obtained in industry than in agriculture (after 1873 prices for agricultural goods fell more rapidly than industrial goods and generally remained low in terms of man-hours of work) and success in modern warfare required the mass production of mechanized weapons So generally recognized were these two facts that from 1876 to World War II world manufacturing increased much more rapidly than world trade[4]

The United States along with many of the other indus trially undeveloped nations undertook the building of tariff walls to assist their manufacturers—a policy favored by the industrial North and opposed by the agricultural South Rates were pushed up to about 47 per cent ad valorem during the Civil War (Act of 1864), reached 49 5 per cent ad valorem by the McKinley Act of 1890, and, after a slight reduction in the Wilson Gorman Act of 1894, were increased still further by the Dingley Tariff of 1897 Then in the Payne-Aldrich tariff of 1909 rates were adjusted on the basis of com peting nations' costs of production and could be changed by the President in case of foreign discrimination against American goods

With the triumph of the Democratic Party in the elections of 1912, a party which had traditionally favored lower rates, import duties were substantially reduced by the Underwood tariff of 1916 from an average of 40 per cent on dutiable imports to 30 per cent But with the return of the Republican Party to power in 1920, rates went upward again The

Fordney McCumber Act of 1922 was followed by the drastically high Smoot-Hawley Act of 1930, with rates on cotton textiles, for example, reaching 62½ per cent *ad valorem*

These measures, the depression of the 1930's, and the disequilibria in international trade and payments created by World War I threatened the very existence of the system of multilateral trade Inasmuch as nations were no longer able to control trade to their liking by tariffs, they resorted to quotas, embargoes exchange controls, and absolute prohibitions World trade dropped precipitously and tended to move within currency blocs

The resulting situation was decidedly unfavorable to the United States The country had now developed its manufacturing to a point where it did not have to fear industrial technological inferiority and where its costs were usually low enough to provide protection from a disastrous volume of imports Consequently the Democratic administration under Franklin D Roosevelt attempted a reduction of rates through reciprocal trade agreements with foreign powers (1934) Many such treaties were negotiated and they had considerable effect in reducing rates In 1950 they were 25 per cent of those in force in 1932 and in the years 1945-1949 the *ad valorem* rates on all goods imported were 7 7 per cent Also the New Deal adopted a policy of buying unlimited amounts of gold at a fixed high price which had the effect of a trade subsidy to gold producing countries especially those of the sterling bloc, and hence encouraged multilateralism

VII WORLD WARS, WAR DEBTS, AND FOREIGN AID

Of all the unfavorable economic consequences of the two World Wars, none was more disastrous and persistent than the disruption of foreign trade Not only did European belligerents lose large parts of their foreign markets to other industrial countries, like the United States, but they also lost

a substantial part of their ability to balance their international accounts through loss of shipping and the liquidation of much of their overseas investments

After World War I, trade was peculiarly upset because of "War debts and reparations" During the conflict the United States had made loans to its allies to pay for materials which were being sent them and immediately after the Armistice made still further loans for reconstruction purposes The borrowers blithely signed obligations to repay these large sums in the expectation that Germany would pay enough in reparations to cover them and all 'war damage"

Almost at once, it became apparent that these expectations would not be realized It was soon clear that Germany could not meet its reparations bill unless its creditors would take its goods in direct deliveries, unless it could get foreign exchange through an excess of exports of goods and services over imports, or unless it could borrow abroad Its creditors, however, did not want its goods except for certain raw materials save immediately after the War when all things were in short supply and they did not look with favor upon Germany's developing an exceptionally large favorable balance of trade and payments

The only way left to pay was for Germany to borrow abroad, and this was what it did for a time, the bulk of the loans coming from America With sums thus obtained Germany met some of its obligations, and then the recipients of these payments paid part of their obligations on war debts

Obviously this procedure could not continue for long, because German credit was bound to fail unless it could develop a favorable balance of payments to meet interest and amortization charges on its loans, and a favorable balance it could not achieve With the coming of the depression in the 1930s, the impossibilities of the situation forced a general repudiation of war debts and reparations (the Lausanne Agreement of 1932 and subsequent arrangements) At that time American claims on war debts were over 11½ billions of dollars, even

though in many cases interest charges had been reduced in the debt negotiations of the early 1920's according to a formula of "ability to pay"[5]

In World War II special efforts were made to avoid creating a great network of financial obligations that would upset trade Thus the capitalist countries among the victors refrained from demanding reparations from the defeated nations and American assistance was given on a 'lend lease" basis, which was tacitly understood to mean without the obligation of payment, or as outright gifts, as through the United Nations Relief and Rehabilitation Authority (UNRRA) But the war was so grueling that in spite of all precautions the strains upon international trade were enormous European nations not only lost their customers and ability to earn foreign exchange but they needed large deliveries from the United States in order to get back on their feet All the world seemed to be short of dollars, which is another way of saying that all the world wanted American goods

In order to re establish some degree of economic order in trade the United States began at once to make extensive loans to foreign areas, allowed foreign countries to pay for the purchase of military stocks by establishing a fund to provide travel fellowships for foreign scholars going to the United States and full fellowships to American scholars going to coun
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larly to help American assistance to Marshall Plan countries was continued until July 1, 1952, economically backward areas were aided in their development, and then military aid was given to relieve the rearmament burden on politically friendly countries The United States went, indeed, to extraordinary lengths to restore the economy of the world, to re-establish multilateral trade, and to strengthen its position against the much feared might of Russia and its satellites

VIII THE AMERICAN MERCHANT MARINE

In any discussion of American foreign trade attention must be given to ocean shipping, because most of American commerce with foreign areas has been by water (about 98 per cent in 1870 and 85 per cent in the 1920 s), and because payments for shipping services constitute an important element in the balance of trade and payments

Prior to the Civil War the United States had a strong position in ocean carrying, its shipyards being well supplied with native lumber and its carriers having the justly famous clipper ships which were produced along the Eastern seaboard With the coming of the steamship, however America lost its strong competitive position in both building and carrying Whereas in 1860 66 5 per cent of America's water borne foreign trade was in American ships, in the period from 1896 to 1900 only 10 per cent of the trade was in ships flying American colors During most of these years the Federal government refused to provide subsidies for fostering the merchant marine, as was being done by Continental European states, and even awarded mail contracts sparingly

From the Civil War to World War I American merchant shipping was kept alive by coastal shippers, a trade that had been reserved to Americans by an act of 1817 By 1914 the American ocean going fleet was nearly 7 million gross tons, but only about 1 million tons was in foreign carrying and much of the total tonnage was foreign built (an Act of 1912 had permitted the American registry of foreign built ships)

In World War I the shortage of ships led to a frenzied acquisition of vessels by purchase and construction The result of this policy was that after the conclusion of hostilities America had a fleet of 11 million gross tons in foreign trade and far from enough business for them all The actual management of the government owned ships was placed in the hands of the United States Shipping Board and the Emer

gency Fleet Corporation, but then in 1920 the government decided to get out of business and to make shipping more attractive to private investors Consequently shippers were given elaborate subsidies, were exempted from certain taxes if savings thereby realized were devoted to new construction, and were allowed to buy vessels at what seemed like ridiculously low prices Henry Ford, for example, acquired nearly half a million tons of shipping at scrap prices

In spite of these measures, however, American shipping did not prosper Foreign competition was very great because of the financial assistance given to shippers and because of lower labor standards and cost The Seamen's Act of 1915 put sailors on an equality with other workmen in respect of all labor legislation American wage rates were particularly high compared with foreign rates Thus the government remained in the shipping business, the Emergency Fleet Corporation becoming the Merchant Fleet Corporation in 1928 and the United States Maritime Commission coming into existence in 1936 to stimulate the building of ships

With America's entry into World War II American shipbuilding again took a new spurt forward Under the supervision of the Maritime Commission nearly 54 million deadweight tons of shipping were constructed to September 1, 1945 and after that date the country was again faced with the problem of what to do with its ships Many of them had been equipped with the most readily available machinery and were so inefficient that they did not command a ready market Some, however, were sold to foreign buyers who were anxious to get back in the shipping business, some to domestic buyers, and others were placed in "moth balls" pending the time when they might be needed again Then the government tried once more via loans and subsidies to keep the American merchant marine flag flying high, but the effort looked to be a very expensive one There were few indications that American shippers, paying high American wage rates and high taxes, could compete successfully with

foreign carriers, and this view found confirmation in the fact that many American vessels were registered under the flags of Liberia and Panama in order to lower their costs of operation

IX BALANCE OF TRADE AND PAYMENTS

In spite of the fact that the American merchant marine did not compete favorably with other nations in time of peace most American productive enterprises could turn out goods at costs which were attractive to foreign buyers Thus American merchandise trade showed for five year periods an excess of exports over imports from 1876 onward So great were these excesses moreover, that they were not offset by emigrant remittances or other services (see table 20) They not only allowed those debts which had been incurred when the American economy was in its puberty to be paid off, but also they led to the investment of American capital abroad On the eve of World War II, the United States was a net creditor on long term account for about 4 9 billion dollars

Total American investments abroad were in the neighborhood of $10 6 billions in 1940 About $7 billion of these were in direct investments in physical property, while the remainder was in stocks bonds and other paper Some 70 per cent of all of these funds were in the Western Hemisphere being about equally divided between Canada and the states south of the Rio Grande Of the remaining 30 per cent, about 20 per cent were in Europe and 10 per cent were in Africa Asia, and Oceania

In the interwar period the favorable American balance of trade and payments totaled about 14.4 billion dollars, but this enormous figure was dwarfed by World War II and post-World War II experience In the years 1946 1949 the excess of American exports of goods and services over imports, excluding 3 billion dollars of net receipts from foreign investments, was 29 billion dollars This deficit was covered by 14

billion dollars of government gifts, 8 billion dollars of government loans, by private gifts and investments, and by the liquidation of foreign gold and dollar holdings[6]

From July 1, 1940 to December 31, 1949 government foreign assistance amounted to $64 922,000,000 net or, excluding the war period, to $30,623,000,000 (July 1, 1945 to June 30, 1951)[7] And this aid was in reality much greater than its face value, for exchange rates to the dollar were arbitrarily maintained in favor of foreign countries—a method of giving more assistance without Congress's realizing it

America's competitive position in international trade and finance was so powerful that efforts were made to increase the economic efficiency of friendly European economies Thus Marshall Plan funds were given with the express purpose of increasing the production abroad of those goods which were being obtained from the United States, and employees and employers from nations receiving American aid were flown to the United States, the former at American expense, in order to receive instruction in our ways of production—in our productive 'know how"

Then as further measures for aiding friendly nations to get the goods from America that they needed and for re establishing multilateral trade, American funds were earmarked for the development of backward areas to which Europe could sell its products (beginning 1949) and large sums were expended first under the Mutual Defense Security Assistance program and from 1951 onward under the Mutual Security Act in an effort to help Europe arm itself to withstand Russian expansion—an expansion which seemed particularly threatening after the communist *coup d'etat* in Czecho-Slovakia in 1948 The military aid program, interestingly enough, envisaged the expenditure of dollars in Europe until 1954, and with another year added to complete the delivery of goods, that is, as the saying goes, to "empty the pipeline"

The amount of aid in 1951-1952, all in outright gifts, was almost as much as that in any of the prior post-war years and

the sum of $25,000,000,000 was discussed as the possible to under the Act In fact, with the sums which were being spe in dollars on American troops abroad, Europe was probab getting more American aid than it had at any time since t war itself Never in history had a comparable attempt be made to reconstruct the economies of other peoples and maintain a given economic system and a method of int national trade

Just how long the American people would be willing continue aid in this volume to the rest of the world was pro lematical Although the desire to contain Russia was ve real, Americans fretted at having to work so hard to help t easier going Europeans, at shipping abroad natural resour needed at home (in 1947, 35,000,000 tons of coal), at t high standard of living of the very rich in Europe, and the continuation of the large communist vote in some of t countries receiving American assistance They wonder when Europeans were going to live within their own mea were going to work as hard as they to have a desired standa of living, or if "foreign legions" could be really entrust any more than they could in the last years of the Rom Empire, with the defense of Western culture's frontiers

Here was a nice problem in the use of national resourc for the question actually was how could the civilizing proc be best served—by using more of man's energies in produci for greater well being, for creating greater works of art, a for establishing a more orderly society, or by using more f protecting Western culture from feared encroachments fr abroad The complete isolation of America from the rest the world was not possible Trade and transportation h seen to that Clearly, however, the great international divisi of labor had added to man's problems as well as to his we being

chapter

6

MONEY AND BANKING IN THE AMERICAN ECONOMY

I THE FUNCTIONS OF MONEY AND BANKING IN ECONOMIC GROWTH

The enormous amount of aid that the United States was able to provide Western Europe in order to hasten reconstruction, the great economic assistance furnished the Allies during World War II, and the large foreign investments which America was able to build up between 1915 and 1950 were all possible because of "savings" made by the American people out of current production. Indeed savings, which consist essentially in postponing the consumption of goods and the diverting of resources from consumers' goods to producers' goods permitted the building of factories, the invention of machines, the development of the land, and the growth of commerce. They allowed man to devote himself to the arts, to create a better regulated society, and to extend his control over his physical environment.

In all economic systems, whether they be capitalist, communist, or socialist, there must be savings and investments if there is to be economic progress. Yet, savings and investments are usually associated with the system of private capitalism, for "savings" used for the production of additional goods and services came in the course of history to be called "capital" and this capital was employed by individuals for making

profits. The chief virtue of this system was, and still is, that by permitting the individual to improve his material well being by his own efforts, it provides him with a strong incentive to save and to invest.

Savings have from time immemorial been accumulated in some form or other to carry people, for example, from one successful hunting expedition to the next or from one harvest season to another. But such things as meat and grain are not good forms of surplus for creating still more surplus. They deteriorate easily, they are not easily moved about, they are not always things that men want, that is, they do not have a ready exchange value, and they are not of standard quality. What man needed to facilitate savings was a standard measure of value that could be stored with facility, had mobility, was readily accepted in exchange for other goods, and for the use of which a charge could be levied. What man needed was money and the institution of interest taking.

In primitive societies various types of money were and are used—shells, amber, wampum, gold dust, and tusks—but most of these types of money had exchange values which were limited to small regions or were transported and manipulated with difficulty. In more advanced societies coins of standard weight and fineness of metal came more nearly to meeting the requisites of money, but they were frequently so mutilated by cheats that they were not a perfect kind of money either. It was not until about 700 B.C. that Greek states began to guarantee the weight and quality of coins and it was not until much later, one may say not even yet, that trust could be fully put in them.

Exactly when "interest taking" came into being is also difficult to establish, but one finds in many primitive societies that if meat is given to a neighbor or grain at planting time that there is an expectation that a little more than the original amount will be returned. In Greece and Rome interest was charged for the use of surplus or capital, and the same can

be said of Western Europe in spite of the Church s interdiction, for there were many ways around the strict letter of the law It was always possible to ' fine the debtor for the delay in paying back the principal and it was easy to charge a fee for changing money or making change

Along with the development of money and of interest taking there was also a development of institutions for handling money and taking interest—the banks In fact, only through banks did money attain its greatest usefulness Banks perform the function of issuing money, or promises to pay which serve as money, and sometimes they do this in the name of and with the ultimate responsibility of a supreme political authority, like the state Banks also provide means for keeping money safely, in transferring it from place to place, and in acting for debtors in paying creditors They assemble savings or surplus or capital, whatever one wants to call it, from a great variety of sources both large and small and from these accumulations they make loans to those who can pay interest and repay the principal In recent times most of their loans have been to enterprising businessmen who would use the sums granted them to produce goods and services So closely have money and banking been associated that it is impossible to discuss the one without the other

II MONEY AND BANKING IN THE UNITED STATES TO 1913

In the early days of the United States, monetary and banking operations were relatively simple The government minted coins from metal which it bought with tax revenues and put them into circulation by paying its debts to private individuals Banks, for their part, were created with capital furnished by persons with surplus and they engaged almost exclusively in commercial banking, that is, lending money to merchants for short terms on the security of goods in the process of being exchanged

As the economy developed, however, both money and

banking became more complex and performed greatly increased and vastly more complicated services Of all of the changes which took place none was more important than the development of bank credit Banks had learned from experience that they could lend much more money than was represented by their capital or by sums deposited with them, because all depositors did not draw out all their money at once Hence banks began to issue bank notes, which were essentially their promises to pay on demand, and thus to create money, that is, to extend bank credit

While bank notes were a great improvement over coins for making payments, they were awkward to handle in large amounts and there was always the danger of loss. Hence it became the practice for banks, when they made loans, to enter the amount in the deposit account of the borrower and for the borrower to transfer sums, that is, to make payments, by checks Thus still another "money" came into existence, which was also a form of bank credit In fact, this type of money, known as bank deposits surpassed bank notes in volume by 1855 and by mid twentieth century comprised about five sixths of the total amount of money in the United States

As the use of money became more and more widespread, as the extension of bank credit played a more important role in the economy, and as banks were called upon to make long term loans for the financing of the basic economic equipment of the country, including agriculture in the West, views regarding the money and banking policies to be pursued were sharply divided into two camps Borrowers, especially agriculturists and people on the frontier, desired cheap money or mild inflation so that they would get more for their produce and could thus more easily pay off their debts, while lenders, notably banking circles in Eastern cities desired "hard money," that is, money which did not lose value, and they favored conservative banking practices

From early in the history of the country political parties took sides over the issue of banking policy Thomas Jefferson

and the Anti Federalists, and later the Democratic Party, advocated "cheap money," while Alexander Hamilton and the Federalists, and later the Republican Party, favored "hard money" Because of this split the character of much of American banking legislation has depended upon which party has been in power and for what periods of time

The issue of "cheap" as opposed to 'hard" money brought up at an early date the question of bank regulation and control Advocates of cheap money wanted individual states to have control over banks, for they believed, and correctly so, that states would approve much more liberal banking practices than the Federal government For diametrically opposed reasons, protagonists of "hard money" favored control and regulation of banks and banking by a central, national agency

At first a compromise position between these two extremes was attained Up until 1836 "hard money" men were appeased by the existence of a national bank under Federal charter which engaged in relatively conservative banking practices and which exerted a restraining influence on the exuberance of other banks On the other hand, "cheap money" circles took satisfaction in the fact that most banks (700 in 1836) were chartered by states and pursued liberal credit policies

In the elections of 1828 "cheap money" interests, led by Andrew Jackson, were victorious They refused to renew the charter of the National Bank (1836) and thus left banking entirely to state chartered institutions To make credit very liberal, some states allowed groups to open banks without legislative act or approval, if they met a few minimum requirements In most states there was no statutory reserve requirements and in those that had them, the requirements were low for the time, being only 15 per cent of the bank notes and deposits in Massachusetts Under the circumstances the number of banks increased enormously and great quantities of bank notes were issued where, as one person said, "wild cats" were the only customers, thus confirming the

practice of calling banks that pursued extremely liberal policies "wild cat" banks

The lack of a Federally chartered bank and loosely regulated state banks continued until 1863. Under the stress of the War of Secession a decision was reached for the Federal government to reassume some control over banking and accordingly the National Bank Act of 1863 provided that Federal charters would be granted to those banks which would meet certain relatively conservative standards and which would issue bank notes secured by Federal bonds It was expected that the bank notes of state banks would be forced out of circulation and that without bank notes the state banks would become more circumspect in their operations This expectation was realized, but to prevent a revival of "wild cat" operations a prohibitive tax was placed on the bank notes of state banks in 1865, states began to tighten their control of banks, and state banks themselves adopted more conservative policies in order to get the confidence of the public so that they could stay in business During the War, unsecured treasury notes, the Greenbacks, had been issued to meet a financial emergency In 1866 there were $325,000,000 of greenbacks, or half the country's total currency Somewhat near that amount was left in circulation.

In spite of the fact that the National Bank Act of 1863 resulted in more cautious banking practices, serious problems continued to exist and new ones arose as the economy developed further along the road of capitalism One of the most troublesome of these increasingly important issues was inelasticity in the supply of money The amount of treasury notes (called also United States notes, or Greenbacks) was fixed by law, the amount of national bank notes was limited by the amount of Federal securities which could be held in reserve, and the amount of silver dollars and silver certificates was determined by the government's program of purchasing silver

Many were those who advocated a fluctuating volume of

money They argued that seasonal variations in the volume of business required changes in the total amount of money in circulation and that a fall in the price level which meant a restriction of business activity, ought to be counteracted by an increase in the supply of money They pointed to the fact that there was a secular downward trend in prices (it lasted from 1872 to 1896), and that the amount of gold which was being mined was not adequate to provide the necessary extension in the volume of money They launched an attack upon the gold standard, which had been adopted in 1873 when the free coinage of silver was repealed and which was maintained on a *de facto* basis by paying out gold when specie was required In fact, the great Democratic orator, William Jennings Bryan in his campaign for the presidency in 1896, made monetary policy the main issue He advocated the free coinage of silver in order to effect a rise in the price level It was in this manner that Bryan believed mankind would be saved from being "crucified upon a cross of gold"

Proponents of cheap money succeeded in getting some silver coined in 1878 and 1890, but their worst fears were quieted in 1[illegible] money became che[illegible] f new produ[illegible] invention of the cyanide method of recovery of gold The money supply was further increased by a great expansion of bank money, that is, the amount of credit extended by banks in relation to their reserves And finally prices had gone so low that people began to expect an upward trend and began to buy

In spite of the price rise, however, the necessity for more flexibility in the supply of money to meet the changing demands of the business community continued to be felt The chief difficulty with the existing system was that at times currency and bank credit were carelessly extended far beyond the needs of the economy and were at other times as recklessly restricted Under the former conditions loans

were made that could not be paid, and under the latter, fundamentally sound businesses were forced to close their doors If people began to withdraw their funds *en masse* from a given bank, that bank could not turn to other banks for assistance, or if a run on banks was general, banks could not meet their obligations because they could not liquidate their long-term loans

The situation was further complicated by the "independent Treasury system" As originally created in 1846, government funds were to be kept in government vaults and not in banks This principle was given up at the time of the Civil War and government funds were deposited with banks But these funds were moved in and out of banks irrespective of the condition of credit in the country A large withdrawal resulted in a sudden restriction of credit, a large deposit permitted a sudden expansion

III THE FEDERAL RESERVE SYSTEM SINCE 1913

Toward the end of the nineteenth century, weaknesses in the money and banking system of the country were not only a political issue but also the object of intensive study by economists, bankers and statesmen Gradually specialists came to recognize that three main reforms needed to be effected First and most important of all, the country required an organization to perform central banking functions, that is, an agency that could *control credit* and also one that could *create credit* when demands on banks became extravagant It required, what most European countries already had, a bank that would serve "as a fire prevention agency, as a fire engine to extinguish any conflagration that broke out and as a river to supply the needed extinguisher' A central bank is indeed, a lender of last resort from money which it can create

Secondly, the country needed a more elastic currency so that the volume of money in circulation would be more re-

sponsive to public demand What was proposed here was the issuing of bank notes secured not only by precious metals but also by collateral such as promissory notes, drafts, bills of exchange, and acceptances, provided by the business community It was thought that the volume of this kind of commercial paper increased and decreased in direct correlation with the volume of business and hence would form a base for the issuing of necessary amounts of currency

The realization of these reforms was made possible by an act of 1913 that brought the Federal Reserve System into being According to the terms of this law the country was divided into twelve Federal Reserve districts with a Federal Reserve Bank in each The capital for these institutions was supplied by national banks, henceforth known as "member banks," which were required to buy stock in the Reserve Bank up to 6 per cent of their own paid-in capital and surplus (State banks were permitted to buy capital issues of Federal Reserve Banks, but they were not required to do so)

The Federal Reserve Banks were to act as a central bank They were to do business only with banks, making loans to them and receiving deposits from them Furthermore, they were given a monopoly of the issuing of bank notes (the treasury continued to issue treasury notes backed 100 per cent by gold), were to rediscount commercial paper, and facilitate the transfer of funds from one district to another as the business community of one district called for unusual amounts of currency or credit

At the top of the Federal Reserve System there was placed a Board of Governors with offices in Washington Its members were named by the President and appointed by the Senate, but it was not actually a government agency, for its funds came from assessments on Federal Reserve Banks rather than from appropriations by Congress In theory, it was independent of the Treasury and could oppose Treasury and Presidential policy, although in actuality it was to have great

difficulty in doing so Its purpose was to determine general credit policies for banks to follow in the interest of the total economy and to facilitate relations among Federal Reserve Banks

It should be noted that Federal Reserve Banks may pay to member banks dividends equal to 6 per cent of its capital Beyond this dividend, 10 per cent of net earnings go into a surplus fund All remaining net earnings are paid to the United States government as a franchise tax The Federal Reserve Banks are thus not profit making institutions, but operate in the public interest

In the monetary and banking system that thus came into being, the Federal Reserve Banks could actually *create* currency and bank deposits Inasmuch as they could issue bank notes up to a given percentage of commercial paper and gold or gold certificates held, they could issue more bank notes by increasing their holdings of this paper by rediscounting more liberally or by lowering the rediscount rate and by enlarging their holdings of gold. As regards the creation of deposits, the Federal Reserve Banks could extend a very great amount of credit because of the large sums held for member banks, some of which could not be withdrawn In fact, the law required that member banks keep their legal reserves with Federal Reserve Banks So great did the power to create credit become that a one dollar increase in Federal Reserve reserves could provide seven dollars of credit throughout the entire banking structure

The Federal Reserve System worked with a fair degree of success until the depression of the 1930's, although political rather than economic considerations were thought to have played a too large role in some decisions and changes in the rediscount rate did not have as much effect upon borrowing as had been expected Under the pressure of the business crisis of 1932, however, the System underwent certain modifications In the first place, not enough commercial paper was being presented for rediscount to allow the Banks to

issue a volume of notes large enough to meet the needs of business Accordingly a change was made in the law to permit the Reserve Banks to issue notes with government securities as part of the reserve (Glass-Steagall Act of Feb 27, 1932) This Act, regarded as temporary, but extended several times, was a revolutionary alteration in the monetary system and opened the way for extensive inflation based on government debt

Another change was the extension of "open market operations,' that is, the purchase by Federal Reserve Banks of government securities in the open market This practice had been indulged in during 1921 and 1922 when the earning assets of the Reserve Banks in the form of discounts were declining From this experience it became clear that as the Reserve Banks increased their holdings of government securities, their discounting of bills went up and credit was expanded, and on the contrary when they sold government bonds, credit tended to be restricted Hence open market operations became a standard practice by which the Board of Governors tried to control credit

The most important change, however, in giving the Federal Reserve Board more control over the credit policies of the country was to allow it (1933) to alter the reserve requirements of banks By increasing the amount of reserves, credit is restricted, by reducing reserve requirements, credit is extended This was the ultimate step in providing flexibility of currency and credit for the United States It was hoped that a judicious use of this power would mitigate the worst excesses of business fluctuations

In this connection mention should be made of the fact that also in 1933 maximum interest rates on time and savings deposits became subject to the control of the Board Also in 1934, the Board was given control of margin requirements—that is, the percentage of the amount necessary for the purchase of securities, which a broker may advance to a client.

And it was instrumental in having National bank notes retired, August 1, 1935

Finally attention should be called to the fact that on January 30, 1934, gold was revalued in order to raise prices and to bring exchange rates into line with the recently devalued European currencies The price of gold was changed from $20 67 a fine ounce to $35 00

What policies the Board actually pursues depends upon a variety of factors, but inasmuch as it takes action for the express purpose of effecting business activity in the *future*, much of what it does depends on what it thinks the future will be and what will be economically good for people in that future Thus Board action is determined to a considerable degree by the forecasting ability of the research staffs of the Board and the Banks and by the social and economic views of members of the Board

What Board members may think desirable may not conform to the ideas of the Treasury or even of Congress Thus after World War II the Board of Governors generally favored a high rediscount rate in order to raise interest rates and curb inflationary tendencies, while the Treasury tended to favor low interest rates, because of the large amount of U S bonds outstanding and of its fear of depression Over this issue the Treasury's view prevailed but the Board exerted, nevertheless, a restraining influence in financial matters

IV THE EVOLUTION OF AMERICAN BANKING

The Federal Reserve System was a great boon to the banking institutions of the country and clearly aided them in their fundamental task of amassing the savings of individuals and of making loans to those who would expand production, and it facilitated the development and extension of the monetary, or capitalist, organization of the American economy Some idea of how great this expansion was and the role

played by banks in it can be gathered from the fact that in 1865 there were 1,643 banks in the country with total assets of $1,357 millions, while in 1948 there were 14,735 banks (there had been over 30,000 in 1920) with total assets of 176 billions Here was an increase that vastly exceeded growth in national income

The two major types of institutions in this development were commercial banks and investment banks The former made short-term loans, usually secured by goods, or discounted commercial bills and notes, while the latter made long term loans to industry or bought blocks of industrial securities Both kinds of banks played an important role in the American economy, commercial banks, like the Corn Exchange Bank and Trust Company, helping to finance the moving of crops to market and the maintenance of inventories, and investment banks, like Morgan's, furnishing capital in building and consolidating railroads and in expanding great industries like steel

In the course of time there was a tendency for banks to become less specialized in the kind of business which they did, that is, to engage in what came to be known as 'mixed banking' Thus the commercial banks in addition to taking deposits, allowing the writing of checks, and financing commercial transactions, began installing savings departments and making long-term investments, sometimes creating subsidiaries for the purpose Investment banks, for their part, began to act as trustees for their clients and to render commercial banking services And savings banks, the other main category of banks, not only continued the taking of savings for which an interest was paid, but many of them except the mutuals took deposits against which checks might be written, discounted notes, made short-term loans against goods, and continued to lend on mortgage

Whereas a decrease in banking specialization has remained a characteristic of modern banking, another trend set in, particularly in the 1930's, which has altered the traditional types

of banking institutions this was the relative decline in investment banking In the depression which followed the stock market crash of 1929 long term credits were frozen with such a solidity that it did not seem possible ever to thaw them out As a consequence people became so afraid of long term commitments that the government forced commercial banks to divest themselves of their investment subsidiaries and investment banks became loathe to take on new obligations Into the investment banking field thus left partly vacant stepped the government and, as we shall see shortly, took over much of the business that seemed risky and at the same time socially desirable

Still another development which was of great importance in altering the character of banking was the organization of banks as stock companies rather than continuing many as partnerships or single ownerships Not only was this in line with the general trend of business organization, for incorporation allowed a dispersing of holdings which meant in turn a diversification of risk, but also it allowed the benefit of limited liability Privately owned banks which had been free from examination, were after 1933 not allowed to receive deposits unless they submitted to state or Federal supervision, and being thus deprived of their most cherished privilege, they hastened to incorporate or went out of business

Finally among the changes in banking, there was a great extension of Federal as opposed to state control of banks By 1939 nearly 90 per cent of all banks fell under the watchful eye of the Federal government and by the same date the Federal Reserve System had drawn under its protective wings 72 per cent of all bank deposits Also there was a trend toward the establishment of chain and branch banks although in this respect there was nowhere near the same degree of development in the United States as in Western Europe Then after a considerable increase in the control of businesses by leading banks, a reaction set in after 1933 and

banks began to withdraw from the actual management of given concerns Lastly, there were interesting shifts in the assets of commercial banks After the Civil War their business was about equally divided among loans to individual concerns, holdings of government and other securities, and cash or balances with other banks, but in the 1920's the preponderance of their assets shifted to loans and then after World War II to government and other securities

V GOVERNMENT BANKING INSTITUTIONS

Extensive as private banking services in the United States were, they came to be supplemented on a large scale by government institutions In fact, in 1938 there were $7 8 billions of outstanding obligations of government corporations and agencies compared with $30 billions of loans and investments of all member banks of the Federal Reserve System

The establishment of government lending agencies began in World War I with the founding of the War Finance Corporation, which with funds appropriated by Congress, made "war risk" loans to industry in order to increase the production of war materiel This institution, which incidentally was kept alive in the 1920's to make long term loans to agriculture, became the prototype of other government institutions created to make loans in which a large risk was involved or to make politically desirable long term investments Thus Federal Land Banks were created in 1917 to make loans to agriculture at rates lower than those then prevailing, Federal Intermediate Credit Banks were set up in 1923 for intermediate loans of from two to five years, and the Federal Farm Mortgage Corporation was established in 1934 for mortgage loans Ultimately all of these agencies and indeed many more were brought together under the Farm Credit Administration Under the Department of Agriculture were also the following lending agencies Rural Electrification Administration, Commodity Credit Corporation,

Farmers' Home Corporation, and the Federal Crop Insurance Corporation

Then under the stress of the depression of the 1930's the Reconstruction Finance Corporation came into being (1932) for the purpose of making Federal funds available to banks on any kind of security, including that unauthorized for loans by the Federal Reserve Banks, in order to prevent them from going to the wall Soon it extended its activity to direct loans to industry in order to prevent bankruptcies, during World War II it helped to finance those businesses which had to expand plant rapidly for War production, and since the War, although under much criticism for apparent favoritism, it has made loans to industries that seemed socially and economically worthy of support Some idea of the scope of its operations can be gathered from the fact that on December 31, 1949 it had loans outstanding of $1,873,865 000

The depression of the 1930's brought many more Federal financial bodies into existence In the first place there was the Federal Deposit Insurance Corporation, created in June 1933, which insured the deposits of individuals up to $5000, in which all Federal Reserve member banks had to insure their deposits, and of which state banks might also make use There was the Federal Home Loan Bank Board, established in 1932, for extending loans for housing There were the Export Import Bank, founded in 1934, to make loans to importers and exporters, the United States Maritime Commission, established in 1936 for ship building, the Veterans Administration and the Government Life Insurance Company for Veterans, the Postal Savings System, established in 1910 but expanded in the early thirties, and even others of a temporary character or of minor importance The government had clearly committed itself to the making of long term, equipment loans, whether or not it lost money in the process

VI NON-GOVERNMENTAL CREDIT AND SAVINGS INSTITUTIONS OTHER THAN BANKS

In addition to banks and government lending agencies there are still other institutions which perform services akin to those of banking The most important of these bodies are building and loan associations, sales finance companies, personal finance companies, credit unions, stock-exchange brokers, and insurance companies The relative importance of these lending agencies can be seen from the volume of their loans in the following table

Type of Institution	Loans Outstanding in Millions of Dollars (1939)
Building and loans associations	2 800
Sales finance companies	980
Personal finance companies	430
Credit unions	150
Bankers and dealers in securities Members of New York Exchange	900
Insurance companies (loans)	8,000
Insurance companies (securities)	15,500

Building and loan associations, first created in 1831, developed to the depression of the 1930's and then contracted, being, in part, replaced by government agencies Sales finance companies came into being in the twentieth century to permit purchasers to pay for automobiles and household appliances on time Personal finance companies, also of recent date, went into the business of making small loans to individuals without collateral at high rates of interest And Credit Unions, owned cooperatively by persons having common business or fraternal interests, were created for the purpose of making loans to their members

The most important of all credit institutions other than banks are, however, brokers and insurance companies Brokers perform the function of marketing securities that corpo-

rations issue in order to get more capital and in addition they help their customers to finance the purchase of securities by requiring the down payment of only a part of the total price and by supplying the rest themselves (buying on margin) Finally they hold funds for their clients, the so called free balances, which at the end of 1939 amounted to $265 million and which they use in their own operations

Insurance companies, and especially life insurance companies, handle vast amounts of capital From their numerous policy holders they receive premium payments that constitute very huge sums and then they invest these moneys in order to have the means of paying claims against them On long term insurance contracts, as for example the insurance of a person for life, reserves have to be substantial For the most part insurance companies have placed their reserves in mortgages government securities, and in corporate bonds and preferred stock Lastly, they do a large business in making loans to policy holders and hence perform a service analogous to that of savings banks

VII PRICES IN THE UNITED STATES

As the role of money in the exchange of goods, in effecting savings, and in making investments became ever more important, more attention was given to the question of prices In general it may be said that price levels in all parts of Western civilization remained relatively stable during the nineteenth century, or more precisely from the Napoleonic period to World War I Indeed they fluctuated within such narrow limits compared with the periods immediately preceding 1800 and following 1914, that people began to think of relatively stable prices as being normal rather than as historically somewhat exceptional They failed to remember that one of the characteristics of all economies with money has been that over long periods of time money loses value, that is, prices in terms of money go up

one hand, and the supply of goods on the other This "quantity theory of prices" has been the object of much criticism and is manifestly incorrect, especially in the short run It is a historical fact that in America from 1869 to 1950 there was no close correlation between the volume of money and prices [1]

It appears that in the short run at least prices have depended in large part upon people's motives, plans, and expectations If higher prices have been expected, there has been an earnest bidding up of prices, or if lower prices have been expected, people have stopped buying or reduced their purchases until prices went down

Prices have also been conditioned by the number of sellers and the number of buyers and their motives, plans, and expectations Thus if someone with a monopoly over a certain product has planned greatly to increase his output, he has frequently reduced price in order to have his increased volume absorbed Or if someone has been the sole buyer of a product, that is, has a position of monopsony, like the government in the purchase of tanks, he has brought prices down by stopping his purchases Also many prices have been controlled by custom, like telephone pay stations and have not easily changed because of a fear that people would react unfavorably against another amount Others have been fixed for the future by contract or by law, like household rents, and costs have been partly adjusted to these prices

In short, prices are determined by a great complex of forces In price analysis, one is well advised to study people's spending in relation to their receipts and cash balances, for here is where they express their expectations If they spend a large proportion of their receipts or cash balances for goods in short supply, prices for those goods tend to go up, and may carry prices for other things upward in such a fashion that prices generally attain a higher price level The quantity and velocity of circulation of money should not, however, be ignored Inasmuch as prices indicate a relationship between

goods and money both of these things exert an influence in the determination of how much of one must be given for the other An increase in the volume of money may change people's expectations and great changes in the supply of money do in the long run affect price levels

On two occasions serious attempts have been made to adopt public policies which would affect prices The first was in 1933 when gold was no longer paid out at the old rate for the dollar in the hopes that prices would go up The second and much more important was during World War II when both price control and rationing were used as part of an effort to keep prices from soaring The former effort had little effect on the price level, at least not immediately, but the latter can be said to have had a large measure of success

From the issuing of the General Maximum Price Regulation in April, 1942, when the highest prices permitted were those of March, 1942, to the end of the War, prices went up only from an index of 98 8 to 105 8 Part of this success came, however, from the fact that the supply of civilian goods was greater during the War than before it and from controls to restrict the diversion of receipts into purchases, such as the abolition of installment selling and the selling of War bonds Some of the factors leading to a price rise were only delayed, for prices did, in fact, go up after the relaxation of controls[2] By then, however, the danger of rapid inflation had been avoided

In spite of these efforts at stabilizing prices or, to put it another way, at regulating the value of the dollar, there were many signs which indicate a long run decline in the value of money The economy operates better when prices are going up, so there is a tendency for both statesmen and businessmen to lean in favor of at least mildly inflationary policies Both individuals and businesses which go into debt want cheaper money, that is, rising prices, for then it is easier for them to meet their obligations And the government, as

it assumes ever greater responsibility for the welfare of its members, tends to spend beyond its means or to extend credit in order to have greater prosperity—policies which tend toward pushing prices upward

The effect which these tendencies have on economic growth and the attainment of higher levels of civilization are extremely complex Presumably that force within money which induces higher prices contributes to economic well being per capita by producing economic expansion but it makes savings in the form of money more risky for the individual Perhaps some new measure of value will have to be developed for savings and money restricted to being simply a medium of exchange At all events savings and investments in some form are essential to economic growth and to civilization

chapter

7

POPULATION, LABOR FORCE, AND THE LABOR MOVEMENT

I POPULATION AND ECONOMIC PROGRESS

For over a century now economists have taught that the factors of production are land, labor, and capital By *land* they have meant all those things which come from the earth and air—all what we have been calling natural resources By *capital* they have meant, as we saw in the last chapter, a surplus in the form of buildings, machines, money or other forms of wealth which could be used for the production of more goods By *labor* they have meant men who are able and willing to work and who have knowledge of and skills in methods of producing goods and services

Thus far in our search for the main factors of economic progress and in our efforts to determine their respective strategic importance in economic growth, we have treated all of these aspects of land, labor, and capital except business organization and managerial ability, to which the next chapter will be devoted, and labor, to which we direct our attention in the present chapter

The term *labor* here involves not only workers, their training, their skills, their willingness to work, and their sharing in the benefits of production, but also the relationship of their numbers to natural resources and productive equipment In general, experience has shown that where

workers are few in relation to resources, economic progress has been especially rapid, for under these conditions it is easier to create surpluses and hence to have greater capital formation, with more capital formation productive equipment per worker is more likely to be extensive, and great productive equipment per worker is conducive to specialization in production and to a division of labor Thus economists of a hundred years ago were right in prophesying greater economic growth in America than in China, for in the latter country population pressed so hard on natural resources and people had such a hard time even to get enough rice to fill their bowls that savings were practically out of the question

Yet even though a small number of workers in relation to natural resources is a condition of economic progress, the number obviously must not be too small A handful of people wandering around in a great continent, like the Indians in North America before the advent of the white man, makes no sense economically Hence the problem in the United States was for a long time to get more people—a problem which was solved most successfully From about 4,000 000 persons in 1790, or less than half the population of present-day New York city, the number of inhabitants increased to somewhat over 150,000,000 in 1950 And even though the rate of growth has fallen very markedly (see table 22), the population continues to grow faster than that of the other major countries of Western culture

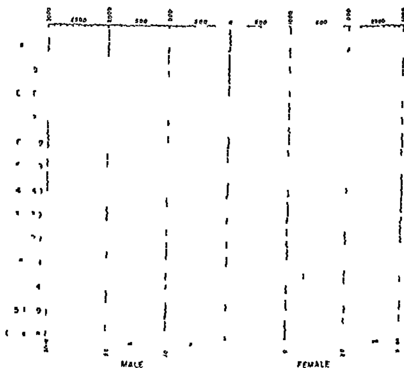
America's very rapid growth in population not only provided the country with workers but also with an extensive market Demands of this market for goods encouraged people with capital to make investments in equipment for the production of more goods, and these investments tended to reduce costs of production and distribution Thus, as has already been remarked, the capitalist system—as well as all other systems—works best when it is expanding, and the growth of population made it expand with a vengeance

The rapid growth of America's population was to be accounted for by a high rate of natural increase (excess of births over deaths) and by an extraordinary immigration—one of the greatest movements of population in all history And when the birth rate began to fall, the decline was more than offset by a decline in the death rate Thus although the birth rate went down from 25 per 1000 persons in population in 1915 to 16 7 in 1936, the expectation of life at birth increased from some forty years in the middle of the nineteenth century (it was probably between 25 and 30 years at the beginning of the nineteenth century, which was what it was in Rome in the first century A D) to 64 4 years for white males and 69 5 for white females in 1945, which were the highest rates in the world The number of immigrants rose from a quarter of a million a year in 1865 to over a million a year in 1910 High wages and employment opportunities drew Chinese to California after the gold rush in 1849 to perform a myriad of tasks for which the busy miners had no time and less taste, attracted Germans and Scandinavians to the Midwest from the middle of the century onward, and brought in Italians, Poles, Austro-Hungarians, and Russians, especially after 1890 (See table 23)

So many immigrants flocked to the United States that American labor became disturbed at the competition which the newcomers were providing and sought protection by exclusion laws Racists and nationalists happily supported these efforts for fear of a deterioration of "American stock" by "non nordic" peoples and by a smothering of American ideals by imported ideologies Accordingly the Chinese were excluded in 1882, the Japanese by a treaty of 1907 agreed to issue no more passports to laborers coming to the United States, and quotas, limiting the annual immigration from any country of the Old World to 3 per cent of the number of native-born inhabitants in the United States in 1910, were established in 1921 in order to reduce the total number of immigrants and especially the number coming from Eastern

and Southern Europe These restrictions have been maintained up to the present with only minor changes except that in 1927 an annual maximum of 150 000 immigrants was added and during World War II and immediately thereafter laws were altered to permit the entry of over 300 000 war refugees and victims of religious and political persecution

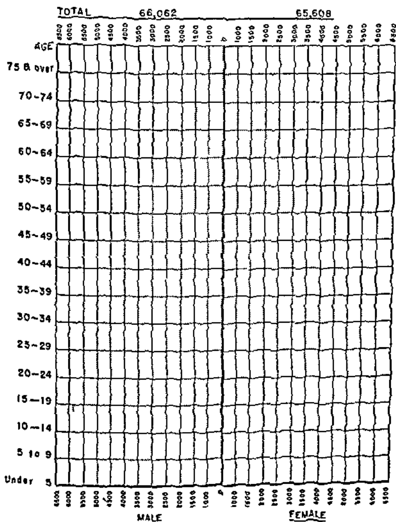
UNITED STATES POPULATION 1860
(In Thousands)



Source Drawn from figures given in *Eighth Census of the United States —1860 Population* (Washington Government Printing Office 1864) p 596.

Along with these restrictions on immigration more attention was given the question of an optimum population This subject was largely lost sight of in America from the last quarter of the nineteenth century to the severe depression of the 1930's, for opportunities for economic expansion were so

UNITED STATES POPULATION, 1940
(In Thousands)



Source *Statistical Abstract of the United States*, 1950, p 9, table 8

numerous that overpopulation was not a great threat Yet it did not require a high degree of perspicacity or very large caliber brains to realize that population cannot go on increasing indefinitely without there being too many people in relation to available resources and techniques of production to allow the maintenance of existing levels of output of goods and services per capita of the population Nor did it necessitate deep powers of thought and reflection to come to the conclusion that public policy should not and could not be committed to the creation of an unlimited number of human beings living in misery and that on the contrary it should be dedicated to the proposition that population be limited in size to a number that could enjoy a high standard of living and consequently have a high level of civilization On account of these considerations economists came to advocate a population which in relation to resources has an ever greater degree of economic well being Thus it came to be said that when a population has in the long run an ever falling supply of goods and services per capita, it is no longer of optimum size.

Thus far in the history of the United States population has not reached a point where it exceeds this obvious optimum Yet in the race between population and the production of goods and services there is always the possibility that the former will outstrip the latter Social scientists are ever more conscious of this danger and stress the importance of avoiding it Many of them have indeed made significant studies of other checks than war and disease on population growth and have come to the conclusion that the most important curb in Western culture is the desire of individuals for a high level of well being and a high degree of civilization

II COMPOSITION OF THE POPULATION

The sheer size of population in relation to resources and productive techniques is only one aspect, however, of the

question of people and economic progress To be effective economically the population must be willing to work and must have a large proportion in the age groups that can work In these respects immigration played an important role in American economic history, for most of those who came to America sought to improve their economic situation and were ready to sweat to realize their dreams, and most of them were of working age, for otherwise they would not have adventured abroad Furthermore, so many immigrants came in that they made a real difference in the composition of the population In 1860 11 per cent of the population was of foreign origin, in 1920 it was 14 5 per cent, and in 1940 the percentage was 9 7 At the latter date there were, however, a large number of Puerto Ricans who had come from the islands to the mainland and there were a certain number of Mexicans who had come into the country illegally Incidentally immigration had the effect of reducing the proportion of Negroes in the population, their percentage to the total falling from 23 per cent in 1800 to 10 per cent in 1940

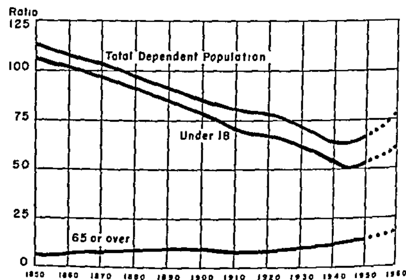
Finally, these people relieved the United States of the "costs of rearing" a large percentage of its working force, this charge falling on the countries whence the immigrants came

Undoubtedly the most important changes in the composition of the population from an economic point of view had to do with alterations in the relative size of various age groups Among other changes of interest was the shift in the proportion of females to males In the census of 1950 females outnumbered males for the first time There were then 100 females for every 98 1 males, while in 1850 there had been 100 females to every 104 3 males

There was a marked decline in the proportion of dependent young and an increase in the proportion of those over 65 Indeed, the ratio of children under 18 years of age to every 100 at ages 20 to 64 was cut in half, from 107 in 1850

to 54 in 1950, while the ratio of persons over 65 to each 100 of those at ages 20 to 64 increased from 6 in 1850 to 13 in 1950 Similarly, in 1850, 41.5 per cent of the total population was under 15 years of age and 4.1 per cent was over 60, while in 1950 27.1 per cent was under 15 years and 12 1 per cent was over 60

RATIO, POPULATION AT AGES UNDER 18 AND 65 AND OVER (AGES OF DEPENDENCY) PER 100 PERSONS AT AGES 20-64, UNITED STATES, 1850-1960



Source *Statistical Bulletin*, Metropolitan Life Insurance Company, June 1950, p 2

It is obvious from these data that more recently the economy has been called upon to sustain fewer dependents than it did a century ago and has thereby effected important savings Also it is clear that the labor force is composed of older persons and therefore has more skill and experience but less speed and brawn Whether or not this is a gain or a loss is a nice question Presumably greater experience and skill should result in fewer mistakes being made, but this advantage may possibly be offset by an unwillingness on the part of older

persons to adopt new and better methods of production and their inability to maintain the pace required in assembly line production For maximum utilization of the older aged labor force, more attention has had to be given to the use of ma chines for heavy and rapid operations, the employment of older persons as overseers and in skilled trades, and the em ployment of young persons, in light but fast work Some companies prefer marriageable women in the latter work on the theory that they will leave the labor force before they slow up

The increasing age of the population has also an effect upon the problem of savings and investment Traditionally, young members of the labor force have effected the greatest savings, so if their number decreases, savings will probably decline By the same token, older persons demand more consumers' goods, so with an increase in their number the proportion of consumers' goods to producers' goods is likely to go up

Finally, note should be taken of the fact that the changing composition of the population has altered the economic role of the family In the first place, the American family has declined in size from an average of 5 50 in 1850 to 3 77 in 1950, and, in the second place, it is less stable than it used to be, the divorce rate (number of divorces per 1000 population) having increased from 0 3 in 1867 to 1 3 in 1932, and to 3 5 in 1945 The marriage rate was 9 6 in 1867, 7 9 in 1932, and 12 1 in 1945 Finally, the typical modern family does not work together in a common economic enterprise, as it did in rural America, the family has little resources to meet misfortune or to support aged dependents, and the father in industry does not usually teach his trade to his sons

III THE LABOR FORCE

With the growth of population and with changes in the composition of that population, the labor force has drasti-

cally altered Along with population it grew in size and in average age But what was particularly significant it became much more flexible as to size In the first place increasing opportunities for the employment of women made available a large reservoir of semi employed or under employed persons who could move into or out of the labor force as circumstances permitted Yet although the percentage of women 15 years of age or over in employment increased from 16 per cent in 1890 to 29 6 in 1949 the total percentage of the population in employment did not increase because of two other reservoirs which were being formed by groups leaving the labor force The first of these was composed of persons under 18 who were flocking to schools and the second of those over 60 who retired The extent of the flexibility in size thus given to the labor force can be illustrated from World War II experience In 1940 only 52 2 per cent of the population over 14 years of age was in the labor force or armed services while in 1944 63 per cent of it was in employment or the armed forces (see table 24)

Another important change which has taken place in the labor force has been as was pointed out in chapter I an alteration in occupational distribution There has been a marked diminution in the percentage of those engaged in agriculture a large increase in the proportion of those in industry and some growth in the percentage of those engaged in services particularly in government Thus there has been a shift toward those occupations where the greatest output per unit of input can be achieved and hence important progress has been made toward maximizing the efficiency of the labor force As has already been indicated national income per capita of the population increased five times from 1870 to 1950 and was at the latter date over three times that realized in France

With the increase in production per capita conditions of labor also improved As can be seen in table 25 hours worked per week in non agricultural occupations were reduced from

66 in 1860 to 43 4 in 1945 and the index of money wages went up from 53 to 350 between the same years, while prices between 1865 and 1945 actually showed a decline Real wages, that is, what the worker could actually buy with the money wages which he received, were therefore greatly augmented From only 1913 to the relatively poor year of 1934, the advance in real wages was 42 per cent, and a comparison of real wages in various important cities in 1924 showed that the worker in Philadelphia got compensation which was at least a half higher than that of the worker in London and over twice that of the worker in Paris Clearly the poor were not getting poorer, as Karl Marx had prophesied that they would They were getting decidedly richer They were getting healthier food, better sanitation, and in general more of the comforts of life which permitted them to have the leisure necessary for achieving a higher level of civilization

The heaviest cross which labor had to bear was protracted unemployment, for most workers were directly and almost currently dependent on their wages for the food which they ate, the clothing which they wore, and the roof under which they slept Sometimes unemployment resulted from technological changes, such as that of the horseshoeing blacksmith when the automobile, truck, and tractor began to perform the traction function, or such as the local tailor when clothes came to be manufactured in factories Sometimes workers were laid off when there were breakdowns in machinery or in arrangements for the amassing of supplies for the manufacture of some product, like the automobile, where many parts were required for the final product And sometimes, which was the worst of all, workers became unemployed when an economic depression set in

American labor has been able to avoid the worst consequences of technological unemployment by seeking employment opportunities elsewhere within the country For a long time young men in the East, who did not show signs of making good, were advised to go West to seek their fortunes

And many of them took the advice Then there were others who moved from South to North, and still more who went from rural to urban areas From 1870 to the present about a quarter of the native population has lived in states other than those of birth (see table 26)

Furthermore, railroads and later the automobile and the truck made changes in the "location' of the labor force relatively easy In 1900 railroads, then the chief means of travel, provided 16 billion passenger miles of transportation, while in 1940 all forms of transportation, of which the automobile was the most important, provided 517 5 billion passenger miles Indeed at the latter date one-fifth of all investments in the country and one-tenth of all consumer's expenditures went for transportation

Although the chief motivating factors in the movement of populations are economic, it is difficult to generalize about those forces which "pushed" people out of one place and "pulled" them to another, or to determine the forces which set them in motion at any given time It is clear, however, that people moved less in periods of business depressions than in times of business prosperity, which seems to indicate that the attractiveness of a new place of abode is a stronger force in migration than poor conditions at home Also most migrants tended for a long time, especially before the automobile, to move in several short jumps rather than in one long one, apparently believing that the grass just over the fence is greener than that in distant pastures, that is, being attracted by intervening opportunities Also they were inclined to move to areas similar to those in which they lived for in them they were most likely to find jobs and living conditions which were congenial to them Thus migrant New England farmers moved mostly to the belt of states from Ohio to Washington, Southerners moved into the Southwest, and people who moved from South to North or North to South usually went into the border states

Furthermore, people tended to move to places where they

would find others of their own kind, with their language and customs Thus today one often finds in remote places a large group of immigrants from some small town in Italy or Poland simply because once one or two pioneers with qual ities of leadership settled there, others followed This explains why so many Scandinavians flocked to Minnesota, Germans to Milwaukee and St Louis, and Dutch to Holland, Michigan Then it also sometimes happened that an extraordinary event like the discovery of gold in California, the formation of the "dust bowl in the Southern Great Plains or World Wars I and II would set great segments of the population in motion Thus during the last World War, that is, from December 7, 1941, to March, 1945, 8 per cent of the population (military and civilian) changed residence at least once,[1] in the decade after 1850 the population of California just about quadrupled, and during the droughts of the late 1920's and early 1930's in the Southwest there were many families, like the "Okies" in John Steinbeck's *Grapes of Wrath,* who sought economic salvation in a new setting

With all the moving about of the American population, there was a trend from rural to urban areas, as has already been pointed out While in 1850 nearly 85 per cent of the population lived in communities of 2500 or less, only 36 per cent lived in such communities in 1950 And what was more, the trend up to 1930 was toward large urban centers, as can be seen in table 27, because of the rapid development of the service trades like retailing, banking, shipping, and investing, and the creation of central offices for large corporations This urbanization of the population was in itself a stimulus to economic activity, for it was accompanied by an increased division of labor, it led to the spread of urban patterns of behavior and to a taste for urban goods, and it contributed to the standardization of consumers' goods Furthermore, urbanization meant that one of the important conditions for the realization of a higher level of civilization was being fulfilled, for it has been in cities that all the most generally recog-

nized triumphs of science, engineering, sculpture, music, architecture, painting, and literature have been produced It is in cities that there is the greatest amount of leisure for creating and enjoying works of art and of intellect, it is in them that the most stimulating and vigorous exchange of ideas takes place, and it is there that leadership is provided for establishing orderly societies and in devising ways of creating freedom from want

IV ORGANIZING LABOR

With the urbanization of the labor force and with the increasing concentration of workers in large establishments, there was a growing movement for the banding together of employees in organized groups for improving their lot, just as there were movements among such groups as farmers, churchmen and teachers to advance their own interests or some cause dear to them In one sense, however, labor organizations are a case apart, for almost all of their demands touch someone else's pocketbook and their chief weapon, the strike, may mean depriving the public of necessary or very much desired goods and services Even from labor's point of view the necessity of having to struggle for what it considers justice is irksome, and if recourse is had to the strike, the lack of pay means a great sacrifice

Under the circumstances it is no wonder that the organizing of labor has been fraught with bitterness In fact, from the middle of the nineteenth century to World War I unionization of labor was stoutly opposed by employers and strongly curbed by government And in this period, labor was tempted to seek a solution of its problems by political action, to meet force with force, and to become enticed by some radical philosophy, like socialism or anarchism It was, indeed, only in the twentieth century that trade unionism became "respectable", it was not until the 1920's that labor relations became relatively orderly, and it was only with the

depression of the 1930's and the legislation of the New Deal that labor's position in negotiations became really powerful Fortunately both employer and employee have come to recognize that they have mutual interests in production and that they must work out some *modus vivendi*

Trade unionism in the United States did not really get under way until the middle of the nineteenth century By the outbreak of the Civil War and more particularly during that conflict when labor was in short supply, a few highly skilled craftsmen, like typesetters and iron workers, formed local unions and agitated for higher wages and shorter hours By 1865 this kind of activity was legal in most states, but strikes, parades, and the use of force were limited by law, and the courts could use injunctions to prevent union action

At the conclusion of the Civil War, an effort was made by W H Sylvis to bring municipal labor groups, trades assemblies, and other workingmen's societies together in national congresses—the National Labor Union (1866-1872)—in order to create a labor policy His work was soon seconded by Terence Powderly, the leading figure in the Knights of Labor, which was founded in 1869 and came to an end about 1900 These groups took stands for the exclusion of Chinese labor, the adoption of the eight hour day, and the use of force in labor disputes Moreover, the National Labor Union opposed the freeing of the slaves for fear of competition and the Knights supported "greenbackism' and advocated the public ownership of railways and other public utilities

Both of these early unions strove to organize all the workers in a given industry in one union, thus bringing the unskilled and skilled together in one body Herein undoubtedly lay their undoing, for skilled workers refused to help unskilled workers improve their lot and the unskilled were practically powerless in the face of obstinate employers, for if they went out on strike, they were easily replaced Internal bickerings over organizational policies and a public made hostile by the Knights' involvement in the use of force re-

sulted in a dwindling of their strength at the end of the nineteenth century

Perhaps another reason for the disappearance of the Knights was the fact that they had from 1886 onward competition in the trade union field In that year, the American Federation of Labor came into being, led by Samuel Gompers The AFL from the outset had a definite policy of organizing workers by crafts rather than by industries, of forming national federations by crafts, and of bringing these national bodies together under its own wing It gave up hope of organizing all workers in an industry, which meant the abandonment of efforts to organize unskilled labor, and it preached the improvement of working conditions within the capitalist system

Inasmuch as the AFL left strike policies largely to individual federations, there were always those who hoped to improve the lot of labor by radical means Partly because of this situation and partly because of employer opposition to any and all trade unions there were several instances of violence and bloodshed in labor relations Perhaps the most famous were the Haymarket Riot of 1866 in Chicago, when several persons were killed, the Homestead Strike of 1892, when an attempt was made to kill Henry Clay Frick, and the Pullman Strike of 1894, when Federal troops were called out to curb the workers.

Gradually, however, the moderate counsels of Gompers prevailed in the AFL, and trade unionism began to be regarded as something other than rowdyism Even though, after the passing of the Knights, whose peak membership had been 750 000, radical elements succeeded in establishing the Industrial Workers of the World, this union lasted only from shortly before to shortly after World War I and its influence was limited Save, then, for the IWW, the Railway Brotherhoods, which remained independent, and a few company unions, the AFL had the labor field to itself from about 1900 to 1935 It grew greatly in size, from 2,000,000 in 1904

to 5,000 000 in 1920, and was successful in improving the lot of its members

As the AFL strengthened its position among workers organizations and as it became more respectable, the government began to change its attitude—to become more benevolent toward labor The Department of Labor was created in 1913 and among its various units dealing with labor questions was a conciliation service for the purpose of settling labor disputes The Clayton Act of 1914 restricted the issuing of injunctions against labor by Federal courts and thus eliminated one of the strongest weapons used to destroy union activity The War Labor Board effected a truce in labor relations during World War I And the Railroad Labor Act of 1926 established the right of collective bargaining—the negotiation of a contract between employers and employees to cover all the workers in a union or even in an industry This was thought to be the key to the establishment of more orderly labor relations

\ THE LABOR MOVEMENT SINCE 1930

The New Deal, inaugurated by President Franklin D Roosevelt in 1933, was in a very real sense a turning point in the history of the American labor movement In the midst of one of the worst business depressions which the country had ever experienced and with unemployment at an all time peak, labor s position in its contacts with employers was greatly strengthened both by favorable legislation and by the encouraging of trade unionism

hours, and other working conditions Here was collective bargaining on a scale previously not imagined possible by the staunchest supporters of the idea [2] But what was more, the

requirement for collective contracts led to the extension of trade unionism and toward the "closed shop," that is, the writing into a contract that the employer must hire only union labor

Hardly had the codes been put in operation than the Supreme Court declared that the National Industrial Recovery Act was unconstitutional (1935) For a moment it seemed as though the gains made by labor would all be lost This was not, however, to be the case, for the rapid enactment of the Wagner Act (1935) made the position of workers even more secure than it had been The new law guaranteed to labor the right to bargain collectively with employers through unions freely chosen by workers, it forbade employers to restrain workers from organizing or bargaining, it outlawed a number of specific unfair labor practices, and it stated that any union which had a majority of the workers in any craft or plant should be the sole bargaining agency in that craft or plant Thus not only was the right to collective bargaining established in law, but company unions were doomed although many remained "independent," and the closed shop was recognized as a regular kind of arrangement

Among its many other provisions the Wagner Act outlawed the "yellow dog" contract, that is, a contract in which workers agreed not to join a union The Act was sustained by the Supreme Court in 1937 Note should be taken here of the fact that the Morris LaGuardia Act of 1932 permitted labor's right to boycott or picket or strike against users of materials from struck plants These secondary boycotts and strikes have been an important labor weapon The Fair Labor Standards Act of 1938 provided minimum wages and time and a half for hours over 40 a week

A decision of the Supreme Court in 1941 exempted unions from antitrust legislation, that is it found that they were not in restraint of interstate trade Most states passed "Little Wagner Acts" to apply to labor relations within their borders for industries not engaged in interstate trade

The application of the terms of the Act were to be super vised by a newly created board, the National Labor Relations Board, an institution patterned after a similar body that had been established to oversee the codes of the National Indus trial Recovery Act The new board was an administrative agency to find out the facts in given disputes and to issue orders If its orders were ignored, it could go to the Federal courts and if they found in favor of an order and the order was still disobeyed, the recalcitrants could then be cited in contempt of court

While labor was making such astounding gains, it was un dergoing a drastic change in union organization For a long time there had been those who wanted to organize on an industrial basis rather than along craft lines—to bring both skilled and unskilled labor together in powerful unions Al ready within the AFL some industrial unions had grown up and a few of their leaders had attained positions of great in fluence In the AFL convention of 1935 a group of industrial unionists, led by John L Lewis, took a strong stand for their kind of organization but they were defeated Hence they seceded from the parent AFL and formed the Congress of Industrial Organizations

The CIO took about 1,000,000 members from the AFL and in addition had an immediate growth of considerable proportions In quick order it organized the hitherto unor ganized automobile, steel, and rubber industries It fought the AFL in many other industries in the elections for jurisdiction in negotiating collective contracts, and frequently it won the day In 1938, when it decided to become a permanent organ-ization, it had about 4,000,000 members, and in 1947 it had an estimated 6,000,000, in spite of the fact that Lewis and his United Mine Workers had left it in 1942, the International Ladies' Garment Workers had returned to the AFL, and a number of Communist-controlled unions had been expelled

For a time the CIO seemed bent on taking a direct part in political affairs with its Political Action Committee, estab-

lished in 1943 Later, however, it abandoned thoughts of political activity and followed the AFL's traditional policy of political expediency For a time, also, there was bitter rivalry between the two great trade unions, but after World War II and the resurgence of anti-labor activity, they tended to be less hostile Previously they had pursued different policies regarding affiliations with international bodies At one time the CIO was connected with the International Federation of Trade Unions to which Russian unions belonged The AFL was then with the World Federation of Trade Unions In 1949 both joined the International Confederation of Free Trade Unions and in 1951 they formed the United Labor Policy Committee for joint action

During World War II labor relations were especially orderly The Unions took a 'no strike" pledge, the Wage Stabilization Law of 1942 regulated wages, and the National War Labor Board endeavored to keep industrial peace After the cessation of hostilities, however, a series of strikes (see table 28), particularly those of railway workers and coal miners, led to legislation to curb the promiscuous use of the strike and to deprive unions of some of their recently won advantages This movement, initiated by a series of state laws, reached a climax with the Labor Management Relations Act of 1947, more commonly known as the Taft-Hartley Act

The new law provided that parties to a collective contract must give notice of their desire to change the terms of the contract 60 days before a strike or lockout, or 90 days in the case of an industry affecting the health or safety of the nation Thus time was to be given for "cooling off," negotiation, mediation, and the publicizing of the issues in question At the end of the period, the workers had to vote before a strike was called, and in the case of "national emergency" industries the President was required to make recommendations to Congress for further action In addition the Act outlawed the closed shop, forbade unions from making contributions to political parties, declared secondary and juris

dictional strikes and boycotts illegal, deprived the unions of "featherbedding practices," forbade the checkoff (the withholding by employers of union dues out of wages) unless consented to by the employee, and made the Unions liable to civil suits for damages for illegal acts Finally, the Act enlarged the National Labor Relations Board and gave it the task of administering the new laws A union whose officers refused to sign an oath that they were not Communists could not have the services of the Board

In spite of the Taft-Hartley Act, which was a bitter pill for labor to swallow, the labor situation was altered much less than had been expected and labor unions remained strong In 1949 the AFL had 7,241,000 members, the CIO, as already stated, 6,000,000, and independent unions some 2,000,000 Thus, although only about 35 per cent of non agricultural workers were organized, union strength was so concentrated that it could get good terms for its members Working standards thus set had a tremendous influence in determining conditions in non-union shops Although employers were frequently annoyed at the unions, many admitted that they made possible through collective contracts more orderly relations between labor and management—the substitution of contractual arrangements for the semi anarchy which existed in the late nineteenth century

Frequently trade unions are charged with pursuing policies which restrict the production of goods—with demanding ever higher wages, shorter hours, and limits on output per worker And although such claims may be justified in part, trade unions have, on the other hand, made contributions to economic progress By demanding higher wages they have helped in the formation of a mass market for consumers' goods and thereby have provided capitalists with a strong incentive to invest savings in producers' goods rather than to spend them on luxuries which would neither stimulate economic activity nor raise the level of civilization By demanding shorter hours, they have given managers an incentive to organize production

more efficiently and have provided the working class with leisure for enjoying a fuller life and the products of civilization.

Whatever one may think of trade unions, however, it is certain that the labor force, as constituted, functioned in a manner favorable to economic progress. Its mobility, its age composition, its willingness to work, and its adequate numbers were important factors in the development of America's economic well being. The chief, long run labor and population problems which could weaken the economic foundations of American civilization are: (1) the development of an attitude of hostility toward productivity and toward work, (2) a willingness to accept a low standard of living provided by governmental relief or insurance, and (3) an increase in population at a more rapid rate than advances in production per capita. Up to the present none of these possibilities has become a reality, but the danger of them is ever present.

chapter

8

BUSINESS ORGANIZATION, THE MANAGERIAL REVOLUTION, AND CONCENTRATION OF WEALTH

I THE ORGANIZATION AND MANAGEMENT OF ENTERPRISE

In spite of all the advantages which the American economy has had with its great natural resources, its productive labor force, and its high rate of capital formation, sight should not be lost of the fact that its business leaders have been men of extraordinary ability Although there is no intention here of subscribing either to the innate superiority of Americans or to the "great man theory of history"—of attributing all change to those exceptional humans who become the leaders in society—the fact remains that without exceptionally competent persons at the helm of American economic affairs, economic progress would have been much slower than it was

For one thing American businessmen were highly motivated to make good, for competition among those who came to the New World to better themselves materially was bound to bring to the top those who had a strong inward urge to achieve economic success Then, too, the lack of rigidities in the social structure to the extent found in Europe, the relative absence of class traditions, of family fortunes, and of legal fortresses for the perpetuation of the power of established

families prevented incompetent and mildly motivated persons from directing business affairs Even though there is evidence that many top positions were held by persons from the well to do classes (see table 29), the rough and tumble of the American social and economic system made it possible for persons with relatively modest origins to attain high position in the business world One has only to cite the cases of such men as Carnegie, Woolworth, Rockefeller, Ford, and Edison to see how true this was, or on the contemporary scene to mention the names of Ralph J Cordiner, President of General Electric, Thomas Watson of International Business Machines, Paul Hoffman, formerly president of the Studebaker Corporation, or Eugene Grace of Bethlehem Steel

Whatever their origin, however, successful American business leaders seemed to have, in addition to a high degree of motivation, one other trait in common—the ability to organize their enterprises well They developed new methods of production, of which the moving assembly line was, as we have seen, the most dramatic, and they used extensively new forms of business organization, of which the corporation was the most striking In one way or another they harnessed the energies, talents, and capital of a large number of people and applied them to natural resources in the hope of producing ever more Their genius consisted in their ability to get people to work effectively together

In this process of production there was always the danger of such a concentration of economic power that the range of economic opportunities would be restricted to exclude the relatively poor, or that the benefits of increased production would not be distributed widely throughout the population, or that the rich would waste away much of their wealth in night clubs, race tracks, and in flashy automobiles And although fear of these dangers has not been entirely unjustified realization of them has not been an extensive burden on the society Competent but poor young men do have the opportunity of getting an education at low cost and in finding

employment at relatively high levels Furthermore, income distribution, after attaining an undesirable degree of concentration, has become of recent years so much more equitable that it is correct to speak of a levelling of economic benefits

And the very wealthy have shown in the use of their riches an inclination to foster education and the arts It is of great significance, for example, that the most important pieces of architecture are not great mansions for personal use like the Palace of Versailles in France, Windsor Castle in England, or the Quirinal in Rome, but are office buildings, factories, and educational structures For the most part, wealthy American families have built more imposing edifices for others to use, whether they be art galleries, university buildings, or local schools, than they have for themselves

In America there is not a tendency to tie up large amounts of savings, as there was in Egypt, in unusable funeral vaults like the Pyramids, or to waste them away in lavish entertainment, as was the case in the Roman Empire For the most part and with a considerable amount of evidence to the contrary notwithstanding, the very rich have been inclined to use a relatively large share of their prestige and wealth for advancing what in Western culture we call civilization

II CHANGES IN BUSINESS ORGANIZATION—THE RISE OF THE CORPORATION

In their search for ways to augment production, American business leaders early ran into a limiting factor in the traditional forms of business organization—single ownership and partnership Frequently neither of these arrangements provided amounts of capital adequate for taking full advantage of existing techniques and resources, neither allowed a real dispersion of risks by placing one's eggs in several baskets, neither gave to the small investor adequate relief from problems of management, and neither was perpetual, a reorgani-

zation being required whenever an owner died or a partner withdrew

It was to overcome these shortcomings of existing business institutions that the corporative form of business organization was developed and widely adopted Here was an arrangement whereby shares or stocks, representing ownership of a part of a business, could be sold to a large number of people, thus making possible the amassing of great sums of capital It was a system in which the stockholders or shareholders could divest themselves of the headaches of management by hiring professional managers It was a means whereby an individual could protect himself against loss by distributing his investments widely It was a type of business organization where the debts of an enterprise were, because of the extent of ownership, legitimately limited to a person's investment and where creditors had no claim against his other funds It was an arrangement that permitted the owner of stock to sell a portion of his holdings in order to meet some pressing financial need without selling all And it was a means of making a business "perpetual," for the corporation being impersonal never died It came to an end only if it were dissolved

The corporation was not exactly a novel thing in America by the middle of the nineteenth century, for colonial "chartered companies" embodied certain principles of the corporate form and corporations were established subsequently for enterprises requiring large amounts of capital, like toll roads banks, insurance companies, and charitable institutions Then in the early nineteenth century men of affairs came to realize the advantages of the corporation and laws were enacted and traditions established to facilitate its use, to protect the corporation from arbitrary actions on the part of the state, and to make the corporation function effectively

In the very early years of the republic, for example, corporations had had to be chartered by special acts of Congress or of the legislatures of individual states, which meant that the establishment of a corporation might be a long, cumber

some, and expensive affair—and one involving all kinds of dealings with legislators

In 1811, however, New York enacted legislation which permitted the incorporation of a business if it met specified requirements and other states adopted similar laws prior to the Civil War Then in 1819 in the Dartmouth College case, the Supreme Court found that a charter granted to a corporation by a state was in essence a contract and that all the rights, privileges, and immunities contained in such a charter could not be revoked, altered, or restricted by the one sided action of the state

This decision had certain unfavorable consequences, even though it did much to popularize the corporate form For example, a traction company that got a franchise for operating trolley lines might continue to operate their lines in spite of the fact that they resulted in inconveniences to the public which might have been better served by autobuses Gradually states came to introduce into corporate charters and other grants a reservation giving them the right to alter the contract With the protection of general corporation laws and with the increased facility in getting charters corporations increased rapidly in number, some 557 being established between 1800 and 1823, and having a paid in capital of some $50,000,000 at a time when national income was estimated to have been $2,000,000,000

In spite of this growth, however, the corporation did not really come into its own nor develop the important institution of preferred stock until the building of railroads got well under way Then so much capital was required, the need for the dispersion of funds to minimize risk was so great, and the lapse of time before investments began to earn legitimate profits was so long that the corporate form proved to be just what was needed Then, too, because costs of construction so frequently exceeded original estimates and hence required additional funds, the device of "preferred stock" was hit upon to attract new money, that is, stock which has a

preferred position in getting dividends up to stipulated limits before dividends are paid on common stock

Gradually the stock company assumed a large role in the business community and elaborate machinery was erected to manage investments in them The New York Stock Exchange, which had been founded in 1792 as a voluntary association of members to trade in Federal, state, county, and municipal bonds became the most important of the many marts in all principal cities for trading in stocks, and through these exchanges brokerage concerns, investment houses, and investment divisions of banks and life insurance companies formed channels that led from savers throughout the nation to corporations So effective was this machinery that by 1879 the number of stocks listed on the New York Stock Exchange numbered 174 and the volume of transactions in stocks attained $72 7 millions Then in 1905, when the railroad building era was nearing its close, there were 374 stocks listed and the volume of sales was $260 5 millions, while in 1946 the market value of all listed securities was $220 billions and in 1949 the sales of stocks on the New York Stock Exchange amounted to $9 billions

By 1933 37 per cent of American business was carried on by the 504 080 corporations of the country And by then the corporate form had penetrated into every branch of business, although they were particularly strong in mining, manufacturing, and transportation, while they were especially weak in agriculture (see table 30) Also by 1933 the corporation was being used extensively in relatively small businesses, 95 per cent of all corporations at that time accounting for only 14 per cent of total corporate assets In fact, many families incorporated the "family business" in order to facilitate distribution of assets upon inheritance and to avoid the responsibility for the debts of the concern in case of bankruptcy Finally, state laws pertaining to corporations became somewhat more uniform and hence there was a more even geographical distribution of the legal sites of corporations than

there had been in 1920 when 95 per cent of corporations were chartered in New Jersey, Delaware, and West Virginia because of the favorable corporation laws in those states

III THE RISE OF MONOPOLIES

In spite of the fact that the corporate form of business organization entailed many advantages for the community of affairs, it gave rise to several undesirable and despicable practices It made possible, for example, the "watering of stock" (an expression derived from an old drover's trick of allowing cattle to drink their fill just before they were weighed for sale), which involved the sale of stock not for the purpose of improving a business but for getting funds which can be used for paying high commissions or salaries to officers or other promoters of a company Also the corporation allowed extensive speculation in stocks, prices sometimes being manipulated by trumped-up reports of a company's earnings or by company statements in such a fashion that those "on the inside" could profit by the change And it permitted the "cornering of stock," an operation similar to the cornering of a commodity

Examples of such practices are almost myriad, but there are some very striking cases Two of the most notorious railroad buccaneers, Jay Gould, originally a country store clerk, and Jim Fisk, an erstwhile Vermont peddler, are said to have issued in six years $71,000,000 of watered stock on the Erie Railroad which was valued at about $17,000,000 In 1868 these same cutthroats threw $10,000,000 worth of Erie stock on the market in order to force the price of the stock down, then to buy up the stock for a song until they had a "corner" on it, to push the price back up by fanciful reports, and then to sell their holdings for a handsome profit

Perhaps the worst thing which followed in the train of corporate development, however, was the establishment of monopolies and the extension of monopolistic practices In

the railroad business, for example, there was a great wave of consolidation between 1880 and 1900, 1500 companies being reduced to eighty of which forty had half the track mileage in existence, and in addition pools, interlocking directorates, and holding companies were established to eliminate or drastically reduce competition among the businesses concerned

The first railway pool of any moment was formed in 1870 by the Chicago and Northwestern Railroad, the Rock Island, and the Burlington to cover through traffic between Omaha and Chicago According to the arrangement, half the earnings of each line in this business were to go into a common "pool," hence the name given to the arrangement, and were to be distributed equally among the participants This scheme was to make the pool members divide the business, charge uniform rates, and keep the rates high Similarly the Erie New York Central, Pennsylvania, and Baltimore and Ohio formed a pool in 1877 for dividing among themselves westbound traffic from New York to Chicago For like reasons pools were formed by cordage manufacturers about 1860, by the salt processors of Michigan in 1868, and by whisky distillers about 1882

Interlocking directorates, which, as the name implies, consisted of the same persons holding seats on the boards of directors of several companies, came into being as banks or individuals obtained large blocks of stocks in many corporations The most distinctive characteristic of several business men came to be the number of boards to which they belonged, at least if one is to judge by the autobiographical data which these men prepared for *Who's Who in America* And once these men were called upon to shape the destinies of various corporations, it was only logical that they should have moved to reduce competition among the businesses concerned For example, Cornelius Vanderbilt, James J Hill, J Pierpont Morgan, Edward H Harriman, the Rockefeller interests, and the Pennsylvania Railroad held so many seats

on the boards of railways that they were able to reduce competition among their lines to a minimum George F Baker, the banker, was a director of so many corporations that it is difficult to see how he had time to do anything but attend their meetings In many ways he was the personification *par excellence* of the interlocking directorate

Then, as though this means of minimizing competition was not enough, the practice grew up of controlling the fortunes of several corporations with relatively small amounts of capital This operation became possible by issuing small blocks of voting stock, which the promoters reserved for themselves, and large amounts of non voting stock, which was sold to the public Those with the voting stock could vote themselves fat salaries or large commissions for services rendered and could exercise extreme caution in the paying of dividends So great was this abuse, indeed, that the courts went on record in declaring that business is not conducted exclusively for the benefit of managers and promoters and that owners of stock have a legitimate claim to profits

Still another abuse which the courts came to frown upon was the monopolistic "trust" The formation of a trust consisted in large stockholders of various corporations turning their stock over to trustees in return for trust certificates and hence in consolidating the voting power in the companies in question The most successful and most famous of all such monopolies was the Standard Oil Trust of 1882 It was formed by large stockholders in some 39 corporations turning their stock over to nine trustees, among whom were John D Rockefeller, John D Archbold, Henry H Rogers, and Henry M Flagler Then the trustees, who thus had complete control of the corporations involved, appointed themselves to important offices in the businesses and were able, because they operated without a charter, to engage in practices which were denied to corporations So successful was this arrangement for overcoming competition among various

companies that the word "trust" became synonymous with monopoly in common usage

Then there was the holding company arrangement, whereby one corporation bought stock in another in order to extend its control within an industry Prior to 1888 this practice had been considered illegal unless specifically permitted by legislative act Grants of such permissions were not numerous, yet it was thanks to them that the American Bell Telephone Company was formed in 1880 and the Southern Pacific in 1884 Then in 1888 New Jersey permitted its corporations to hold stock in others and the holding company idea was on its way to success

In spite of the monopolistic practices which accompanied the growth of the corporation and in spite of the cumbersomeness of great business bureaucracies, which in many respects were just as annoying and almost as unwieldy as governmental bureaucracies, the trend toward the consolidation of business enterprise was not without economic justification There was no doubt that the optimum size of operations was large in many industries and that some of the monopolies, even the Standard Oil, were able greatly to reduce the price of their products Savings were also to be realized in such overhead costs as advertising, selling, and distributing And concentration frequently gave financial strength, a stabilization of the market, a regularization of supply, an ability to conduct technical research, and control of raw materials

IV THE ANTI-TRUST MOVEMENT

Unfortunately, however, the trusts themselves often obscured whatever good points they may have had by selfish practices and policies Many of them quite bluntly exclaimed that the public could be damned for all they cared So reprehensible did certain companies become that journalists finally realized that the exposing of the more lurid operations

of the "robber barons" of the new age made excellent reading Thus there came into being a galaxy of "muckrakers," including Henry D Lloyd, Lincoln Steffens and Ida Tarbell who brought to light many monopolistic abuses and cases of downright dishonesty Gradually they managed to arouse the population and the politicians, and these latter finally took action

The first important law in the new campaign to control monopolies was the Sherman Anti-Trust Act of 1890 It provided that "every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared to be illegal" This brief and loosely worded legislation presented a chance for evasion, and full advantage was taken of the opportunity thus offered Such expressions as "restraint of trade were interpreted by the courts to mean "unreasonable restraint of trade" and hence came to permit "some restraint of trade" Furthermore the courts distinguished between "good' and 'bad' trusts, the former presumably not taking such advantage of their monopolistic positions as to rouse the ire and hostility of the Anti Trust Division of the Department of Justice and the latter by contrast apparently engaging in such obnoxious practices as to bring down upon themselves the wrath of public opinion and of government

As can be imagined the Sherman Anti-Trust Act did not prevent the formation of monopolies, 183 consolidations taking place in the decade after 1890 Indeed, it was in 1901, with the formation of the United States Steel Corporation, that America got its first corporation capitalized at over a billion dollars.

The forces fighting monopoly were not, however, ready to admit defeat Muckrakers, their forces strengthened by such powerful writers as Upton Sinclair, and reforming politicians kept up the struggle against such monopolistic practices of big business as high prices, poor service, and favoritism among customers In the first years of the twenti-

eth century, as was shown above, railway rates were brought under public control The Armstrong Investigation in New York led to such reforms in the life insurance industry as the abolition of certain types of policies that seemed to result in injustices, the prevention of life insurance companies' control of businesses in which investments had been made, and the outlawing of secrecy in certain aspects of operations, especially in the matter of salaries paid to officers and of contracts let involving the expenditure of funds

The Supreme Court in the Northern Securities case established a curb on railway combinations to monopolize or control railway traffic And both Theodore Roosevelt and William Howard Taft engaged in what was called "trust busting," even the Standard Oil Company being broken up in 1911

Finally in 1914 the Wilson Administration secured the passage of the Federal Trade Commission Act and the Clayton Anti Trust Act The former measure created a body that could issue "cease and desist orders" to stop questionable methods of competition and could take its orders to the courts for enforcement if necessary The latter law forbade discrimination in prices between different customers, the formation of a holding company if the purpose was to reduce competition, and the existence of interlocking directorates in companies serving the same market

During and immediately after World War I great industrial giants like United States Steel, National Lead Pittsburgh Plate Glass, United States Rubber, International Harvester, the American Woolen Company, American Optical, and American Window Glass began to get serious competition and also to improve business practices Hence the public was more apathetic toward the size of business and no strong stand was taken against the pervasive but unspectacular merger movement of the 1920's And much the same can be said for the mergers since World War II

The chief motives toward consolidation in both these periods were strategic, such as, for example, the control of

raw materials In the more recent period, however, the corporate income tax has played a role in the mergers which have been effected, for if a corporation's earnings were such that it had to pay heavy taxes, it was willing to absorb a company whose tax base was low, thereby extending its holdings instead of paying taxes This practice was frowned upon by the Bureau of Internal Revenue, but it had great difficulty in proving that a given merger was for purposes of reducing taxes

During the New Deal, however, hostility toward monopolies was again displayed, for the economic depression had made people sensitive to all possible weaknesses in the conduct of business and the elections of 1932 had brought to power a group committed to the correction of flaws in the economic system Accordingly the Franklin D Roosevelt Government took steps to prevent unscrupulous businessmen from milking the investing public The Wheeler Rayburn Act of 1935 ordered the dissolution of all holding companies in interstate utility business and gave the Federal Power Commission control over interstate electric rates and the Federal Trade Commission control over interstate gas rates, the Securities Acts of 1933 and 1934 created a Securities and Exchange Commission that was to regulate stock exchanges and that required sellers of new issues of stocks and bonds to provide full information about the companies concerned, commercial banks were required to divest themselves of subsidiary investment banks, and investment trusts, that had corporation stocks as assets and which thus served the excellent purpose of allowing the small investor to diversify his holdings, were warned not to let their directors unload upon them stock that had gone sour

In spite of such action and a general hostility toward monopoly, the New Deal pursued one policy which delivered a blow to business competition That was the encouragement which it gave to the formation of trade associations—to the

creation of organized groups of employers for each major category of goods and services, like automobile manufacturers, coal producers, and bankers Although business associations had existed for a long time, the National Association of Manufacturers having been established in 1895, the United States Chamber of Commerce having come into existence in 1912, and various trade groups having formed to present their cases before the Federal Trade Commission, the role of trade associations in industry was minor until the 1930's Then with the National Industrial Recovery Act an effort was made to get these associations to regulate their trade Thus trade associations were formed in industries where none had existed, and all associations were allowed to assume a large amount of authority And even after the NRA had been declared unconstitutional, the trade associations retained a place of prominence in the business community They provided a means if only an informal one at annual conventions, to exchange ideas regarding products, prices, and business practices Hence exactly equivalent prices might be charged for a standardized product and similar services rendered to customers even though there was no provable "collusion" for which companies might be prosecuted under the antitrust laws

Because of informal "understandings" arrived at through trade associations, it is difficult to give an accurate estimate of the extent of monopoly in American business So far as concentration of production is concerned, we know that in 1940 in seven industries one corporation had the total output, in five others one corporation had from 60 to 70 per cent of production, and in twelve others two companies accounted for 62 to 75 per cent of output We also know that in 1940 those industries in which four or less companies had 75 to 100 per cent of production accounted for 57 per cent of all manufactured products And during World War II thirty-two companies received one half by value of all prime war contracts[1] (a prime war contractor was one who frequently

subcontracted for the procurement of certain things needed by the government)

Such economic concentration implies the location of power in the hands of a few who might take advantage of their fellows The fear of this kind of exploitation led the New Deal to ask Congress to investigate monopolies and the concentration of economic power To this end the Temporary National Economic Committee was created in 1938, composed of three Senators, three Representatives and one person each from the Departments of Justice, Labor, Treasury, and Commerce, the Securities and Exchange Commission, and the Federal Trade Committee Through extensive hearings it collected an enormous amount of information about monopoly and business practices, but its findings disclosed fewer clear abuses of monopolistic power than had been imagined and the investigation led to no important reform movement [2] The only step which could be said to be aimed at curbing the extension of economic power was a graduated income tax (1936) on undistributed corporate profits,[3] a tax which it was expected would encourage spending by stockholders, would induce corporations to charge lower prices or to render better services, and would prevent them from having the wherewithal to buy out competitors

V THE MANAGERIAL REVOLUTION

With the growth in size of business enterprise and with the increase of technical knowledge necessary to produce and distribute goods, a revolution took place in the management of business affairs No longer was it possible for the owner of a big concern to assume the sole responsibility for forming and applying policies, nor could investors who had diversified their risks by buying into several corporations devote an adequate amount of their time to or acquire an intimate enough understanding of all the companies in which they were interested to warrant their participation in the de-

tails of management Consequently a class of professional business managers came into being and more and more the actual direction of large American concerns was entrusted to them[4]

Many of the "managers" were trained specifically for their work in business schools, in engineering institutions, in law faculties, and in courses of instruction or training programs provided by industry itself They became the "experts' who advise owners or representatives of the owners or such exalted personalities as executive vice-presidents presidents, and chairmen of the board what to do They are fired if they are unsuccessful, they are promoted if they show exceptional results, and they move from company to company in response to offers which they receive

This managerial revolution has had, it is believed, a profound effect upon the conduct of American business It is probable that the professional managers have tended to be less enterprising than earlier tycoons of the business community They seem to avoid taking chances which would endanger the wealth which they administer--to play it safe--and hence they appear to lack the drive and imagination of men like John D Rockefeller, John Wanamaker, or Charles Schwab[5]

Also, these experts have a tendency to arrive at decisions by the group method In fact, to persons who attempt to reach these men via their secretaries they seem to be forever "in conference' This means that the views of several experts are pooled, discussed and fused when policy is made Consequently responsibility for policies is shared by many and because many are involved it is more difficult to adopt lines of conduct which are contrary to the best interests of society There has been a very definite improvement in American business morality since the professional manager came into prominence

This new development in the manner of managing business, accompanied as it was by a wider dispersion of stock among the population, tended to strengthen the interest of a large

part of the people in the fortunes of business and in the operation of the capitalist system Yet with this interest there has not been a commensurate increase in the participation of small stockholders in the affairs of corporations These people have been practically helpless at stockholders meetings and as a result have seldom attended, nor have they even bothered to give their proxies to anyone other than the existing directors In fact, many stockholders never even read company statements, being content if they receive good dividends and becoming hopping mad if they get nothing For the most part, the system which developed meant that small investors had to place confidence in the managers of corporations and to rely on the "experts' and government controls to protect their interests

Of a more technical character than this question of stockholder participation in the fortunes of his companies were the problems of command in large enterprises, of impersonal relationships among the many persons involved and of bureaucracy and red tape To the matter of command, one solution was 'line organization," as in the army, where decisions were passed from superior to inferior in a well recognized hierarchy of authority, a system which predominated in the vertical organization of business Another answer was "staff organization," where individuals were given a large range of authority for specified areas, a system which was frequently adopted in horizontal trusts Lastly, there were many combinations of both these plans with weighting in one direction or another

In whatever scheme of management, however, efforts were made, at least from World War I onward, to build morale and to overcome the impersonality connected with size of business enterprise by organizing company athletic teams, company housing projects and hospitals, annual outings, and company newspapers or magazines—the well known 'house organs' And to minimize the cumbersomeness and lethargy of bureaucracy efforts were made to show individuals what

part they played in producing a final product, in getting them to take pride in and to share responsibility for the company's welfare, and to encourage them to improve production by making suggestions for greater efficiency

VI THE CONCENTRATION OF WEALTH

From our discussion of the formation of corporations and the creation of large business enterprise, the impression has undoubtedly been given that a considerable concentration of wealth was taking place This impression is without question a correct one for the entire period from the Civil War to the present, although statistical confirmation of the impression is not available We do know, however, from income data that in 1929 about one per cent of the total population received nearly 20 per cent of the total income, but that after 1929 the very rich got a smaller proportion of national income and that the poor and medium rich obtained a much larger share than had been their wont (see table 31 and chart 1 accompanying it)

In this trend toward the leveling of income, the income tax played some role, for its rates were graduated in such a manner that the rich paid much larger proportions of their income than did the poor (see chart 2 in the appendix), the rate reaching 63 per cent in the highest brackets This tax was first employed during the Civil War and subsequently declared illegal It was made possible by the sixteenth amendment to the Constitution and was applied in 1913[6]

But the chief reason for a more equitable distribution of national income was an important change in the operation of the economic system From table 32 and chart 3 one can see a considerable increase in employee compensation and a notable reduction in entrepreneurial and property income Finally, there seems to have been an evening out of income per geographical region of the country (see table 33) and changes in consumption expenditures which show a substantial im

provement in the well-being of the people (see table 34) At least, a smaller proportion of the family budget was going just for the bare necessities of life than was the case a hundred years ago

Progress which has been made in the last twenty years toward a more equitable sharing in the benefits of economic growth show what is possible under the capitalist system There seems to be nothing intrinsic in capitalism that requires the rich to get ever richer and the poor ever poorer From the record it is quite clear that progress has and can be made in the production and distribution of goods per capita in spite of all the theory to the contrary Upon continued progress of this kind depends the strength and durability of the economic foundations of America's democratic civilization

chapter

9

BUSINESS CYCLES AND THE WELFARE STATE

1 BUSINESS FLUCTUATIONS

The more one studies the pages of American economic history, the more one is certain to be impressed by the main theme which we have been developing—the great increase in economic well being per capita of the population And the more one considers this 'model of economic progress," the more one is bound to be amazed at the almost uncanny fashion in which the many factors of growth have been brought together in fortuitous combinations and how necessary each one was for the achievement of economic progress

Astounding as has been this process of economic development and the attainment of a degree of economic well being never before realized on such a large scale in all the annals of human kind, one should not get the impression that the blessings received were entirely unmitigated Individuals worked hard for what they got and frequently lived under nerve-racking tensions And in becoming more urbanized people were to some extent deprived of many of the joys of the land so dear to those with rural backgrounds—fresh air, the smell of new-mown hay, the good earth, and direct, personal participation in the public affairs of the community. But clearly the worst features of the economic system which developed were (1) an increasing and almost complete de

pendence upon salaries and hence upon steady employment for existence and (2) wide fluctuations in business activity which in their depression phases left many workers without jobs and entrepreneurs without the accustomed volume of trade

In one sense there was nothing very startling in the fact that there were ups and downs of economic activity under the capitalist system Indeed one of the curious aspects of human history has been that there have been fluctuations in [illegible] — the days when everything [illegible] through times when the [illegible] ls when great cultures see their levels of civilization fall calamitously low In fact, in all societies of which we have any knowledge there have always been periods in which economic activity was more intense than in others In primitive societies which lived by the hunt, there were times when the chase was successful and others when it was a failure, and even if the men came back loaded with meat, there was in the tribe a period of relative rest before the next expedition set forth Then in predominantly agricultural economies there was great activity in the growing seasons and relative calm in the dormant seasons, and there were drought cycles when crops were meager and rain cycles when crops were lush Even in a modern communist economy there are signs of fluctuations resulting from poor crops, as after the drought in the Ukraine in 1932 and 1933, and stemming from sudden shifts in planning, as when under the first Five Year Plan adopted in 1928 it was decided to liquidate the private trader as a distributor of goods

Yet the business fluctuations which came to badger the American economy and, in fact, all economies operating under a system of private capitalism were different from those in other economies, for they seemed to be generated by the very functioning of the system itself They appeared to be an integral part of capitalism

In America these business fluctuations, usually called 'busi

ness cycles" in spite of the fact that their recurrence is neither regular nor (in my opinion) inevitable, as they should be to be truly "cyclical," have varied in length from two to eight years Furthermore, they are to be clearly distinguished from seasonal fluctuations in the rate of economic activity, from secular cycles in price levels which some scholars have maintained have stretched over periods of 50 years, and from very long term fluctuations covering centuries, as in the case of the rise and decline of economic activity accompanying the rise and fall of Roman culture [1]

Business "cycles," or better business fluctuations, appear to have four discernible phases—expansion, recession, contraction, and revival And although each individual case has characteristics of its own, the phases of the fluctuations may be described as follows

1 *Expansion* The expansion phase of business fluctuations is characterized by an increase in the physical volume of production, an increase in the number of employed, rises in wage rates, larger profits, and greater consumption Prices tend to go up and there is general optimism about the immediate future of business Investments increase and the productive plant is enlarged

2 *Recession* As business expansion spirals upward, a *peak* is finally reached where individual enterprises have as much to do as they can handle profitably Costs of production go up, management tends to become lax, interest charges for plant extension are heavy, and prices reach a point beyond which they cannot be pushed without losing many customers Plant expansion then ceases and makers of machinery slow down their production Persons with fixed incomes are forced to reduce their purchases As manufacturers of productive equipment close their doors, and as purchasing power decreases, unemployment sets in and banks begin to call in loans and to withhold new credits

3 *Contraction* Optimism is now transformed into pessimism, prices fall, production goes down, profits are reduced,

bank loans shrink, unemployment goes up, and the bottom of the trough in economic activity is reached

4 *Revival* With the contraction of business, less money is needed for the conduct of affairs, which results in easier credit policies of banks Management becomes more efficient and prices are so low that persons with purchasing power begin to buy Retailers start to replenish their depleted inventories and factories to refurbish and renew their equipment Bankruptcies grow fewer, prices become stabilized or show a slight tendency to go up, and confidence begins to return Before long the economy enters the expansion phase, thus completing the circuit [2]

To trace the course of business fluctuations with any degree of accuracy is extremely difficult Some industries, as we have just seen, contract sooner than others, new industries may keep on expanding while others are contracting, and various factors like the physical volume of production, unemployment, national income, and the like have to be combined to furnish a guide to the determination of turning points in business fluctuations These turning points are fairly well established (the peaks and the troughs are indicated in table 35), but a satisfactory statistical statement regarding the amplitude between the high and the low points has not yet been made Nevertheless, it is possible to determine in a rough way which expansions and which contractions were the most severe and to indicate some of the particularities of each

During the Civil War there was in the North a degree of war prosperity brought about by the need for military er [illegible] prices, high wages, and the purc [illegible] After the war, there was a [illegible] ession from this boom, but this was followed by a revival and in 1871 and 1872 a boom stimulated by railroad building, reconstruction, the export of cotton, and the equipping of returning soldiers with civilian goods

In 1873 recession set in with a "panic," which brought business to an extremely low level in 1879 Railroads had been built into the Ukrainian wheat fields and the Suez Canal opened in 1869, had reduced the transportation costs on Australian wheat, which meant competition for American grains in Europe There had been overexpansion in both industry and agriculture in America, and a considerable increase in bank credit Serious fires in Chicago in 1871 and in Boston in 1872 put a strain on fire insurance companies, a panic on the Vienna stock exchange in May, 1873, started a withdrawal of European funds from America, and in September Jay Cooke, the railway builder and speculator, failed In the next four years bankruptcies were numerous, 20 per cent of railway investment being sold under foreclosure from 1876 to 1880, unemployment was enormous, and prices collapsed, farm prices going from an index of 108 in 1872 to 72 in 1878 and metals from 257 to 126 between the same years (1910 1914 = 100)

Poor European crops in 1879 and 1880 gave America an outlet for its products and very low prices encouraged buying at home Manufacturing increased, railroad construction was extended, and prices began to move upward to 1882 In the spring of 1884 there was a sharp financial crisis, but general economic conditions were favorable enough so that the ensuing depression was not so severe as that after 1873 Prosperity was reached in 1887, which lasted until 1893, save for a mild depression following the difficulties of the bank of Baring Brothers in England in 1890

In the first half of 1893 there was a stock market crash, a great restriction of bank credit, and many failures Business activity receded to 1894, recovered mildly in 1895, slipped back in 1897, and then recovered In general with the upward secular trend in prices business was good until 1920, although there was a setback in 1903 (the rich man's panic) following a feverish formation of trusts, in 1907 resulting

from a shortage of credit, in 1914 when World War I broke out, and in 1919 at the time of demobilization

The first deep depression came in 1921 because of wartime expansion, excessively high prices, and a subsequent buyers' strike, but it was of short duration By the third quarter of the year recovery was in sight Then came the prosperity of the 'torrid twenties" Industrial production increased, commercial activity was great, agricultural output remained high, and prices remained remarkably stable Many thought that the 'business cycle had been licked" and that prosperity had come to stay Yet there were obvious weaknesses on the American economic front Some industries, geared up to war demands, were overproduced, especially tin, rubber, copper, and coal Railroads and utilities were caught with rising costs and rigid rates Foreign lending tended to keep interest rates high And agriculture was heavily in debt because of expansion during the war and because of the fall in prices after the conflict

Finally, a speculative mania hit the security exchanges Stock market prices moved upward and before long money was being borrowed at 10 per cent to buy stocks, which, if dividends had been paid on the basis of current earnings, would have yielded only 2 per cent on the purchase price From 1926 to September, 1929, the index of 421 common stocks in New York rose from 100 to 225, and in the twenty months ending in September, 1929, the value of stocks on the New York Exchange increased by more than 51 billion dollars In the early fall of 1929, stock prices began to show signs of lethargy, speculators began to sell, and between September 3 and November 13 share values on the New York Exchange fell by 30 billion dollars and by June, 1932, stock prices had reached an index of 34 (1926 = 100)

The stock market crash inaugurated the worst depression that America had ever experienced Wholesale p from 95 3 in 1929 (1926 = 100) to 64 8 in 1932, production declined from an index of 311 in 1929

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salaries coming from steady employment Time had been when the American economy had been predominantly agricultural and people had produced many of the things which they themselves consumed, when the farmer had an equity in the land which he cultivated, when he taught his ways of making a living to his children, and when, if his harvests were good he had enough for himself and his family Indeed, farmers could usually find room in their houses and a place at their tables for elderly dependents or for unproductive children But as the money economy, with its division of labor and with the growth of great urban centers, developed, this economic self dependence was supplanted by economic interdependence (As was indicated earlier, about 50 per cent of the aggregate payments in the total economy were classified as employee compensation in 1870, about 65 per cent in 1929 1938)

Most people had but little in the way of savings and property, did not pass on either a trade or a business to their children, and those in urban areas lived in small dwellings or apartments that were not adjustable for the accommodation of added members of a family, whether they were twins, grandchildren, or perhaps especially in laws So any sudden change in the composition or earning power of a family, such as the addition of dependents or the cessation of wages or other earnings needed to meet current requirements, caused great annoyance and even suffering

In the course of time man took steps to protect himself from the results of possible misfortune And among his first steps was the development of life insurance For a bona fide insurance contract five elements must be present (1) the insured possesses an interest of some kind susceptible of pecuniary estimation, known as insurable interest, (2) the insured is subject to risk of loss through the destruction or impairment of that interest by the happening of designated perils, (3) the insurer assumes that risk of loss, (4) such assumption is part of a general scheme to distribute actual losses

among a large group of persons bearing similar risks, (5) as consideration for the insurer's promise, the insured makes a ratable contribution to a general fund, called a premium

Life insurance first appeared in England and Scotland in the eighteenth century to alleviate the financial suffering which might befall widows and orphans and some of the early companies indicated in their names that they existed for the purpose of aiding these unfortunates By the beginning of the nineteenth century efforts were made to launch life insurance companies in America, but these efforts were not particularly successful until the 1840's when The Mutual Life Insurance Company of New York, the New England Mutual, and the New York Life came into existence[3]

The earliest life insurance contracts were designed to furnish beneficiaries, in case of the death of an insured amounts ranging from enough to pay last illness and burial expenses to sums allowing them to live in relative ease Such contracts have continued to be the most important class of life insurance policies, yet in the course of time many other different types have been devised in order to conform to the responsibilities and financial status of the insured and in order to aid him to effect savings which had been less necessary in our earlier and more agricultural economy Thus policies were written which provided for low premiums in the younger ages of the insured when his earnings were presumably low and higher in the later years when his earnings were expected to be higher Others, called term policies, made insurance possible for stated periods of time when death of the insured would have meant an exceptionally great hardship for his dependents, as, for example, a family man in the early years of his professional career Then there were endowment policies which stressed savings along with insurance for such purposes as the creation of a fund to train a son for a trade, to set him up in business, or to put him through college and there were others, combined with annuities, to provide funds for the last years of life

With the development of these various types of coverage, changes were effected in the method of selling life insurance The original system had been by personal solicitation by 'underwriters," and this continues to be the most important method But with the growth of the factory system and the need of workers for a sharing of risks of death, policies for small amounts with frequent premium payments (usually monthly) were sold by canvassers as "industrial insurance" —the name being derived from the fact that most of the insured were industrial workers Then more recently with the concentration of industrial enterprise and a growing stability in the personnel of large establishments, "group insurance" came into being—the sale of blanket policies to cover at least a large proportion of the members of a given concern and the payment of premiums in lump sums by the employer from payroll deductions

Mention should be made here of the fact that insurance has been used to diversify the risks of other losses than those of death Thus marine insurance, fire insurance, theft insurance, liability insurance, health and accident insurance, and workmen's compensation insurance all have an important place in the American economy

Because of the useful service which insurance provided in furnishing means for sharing risks, the amount of insurance written grew by leaps and bounds The sums of life insurance on the books in 1860 provided a coverage of only $163,700,000, while that in effect on January 1, 1943, amounted to $130 000,000,000 (see table 36) This insurance furnished on the average a protection of $989 for every man, woman, and child in the land and, as can be imagined from the factors which brought it into being, was particularly concentrated in large cities (see table 37) In 1948 life insurance in force amounted to $206,570,000,000, which indicated how people were increasing their coverage to compensate for the rise in prices and to build up equities while their prosperity lasted Furthermore, life insurance was much

more highly developed in America than in any other nation, the coverage in the United Kingdom on January 1, 1938, being $354 per capita and in France $50

III THE WELFARE STATE

In spite of insurance and various types of savings, people wanted greater security than could be provided by their own efforts and they demanded that it be furnished by the state They contended, as President Lincoln once wrote, that "it is the business of government to do for the people what they cannot, as individuals, do for themselves" Slowly the state extended its intervention in economic affairs for the purpose of improving the lot of all, and accordingly it came to be known as "the welfare state" in contradistinction to the "laissez-faire state" of the early nineteenth century or to the "mercantilist state" of the seventeenth century

The United States was, however, late compared with European countries in the adoption of "welfare policies" for the protection of its workers In fact, it was not until 1935 that the Social Security Act was passed, while Germany, the pioneer in this field, adopted workers' sickness insurance in 1883, the first real workmen's compensation law in 1884, and an old age and occupational disease law in 1889 Undoubtedly the needs for such action were less pressing in America than in the older countries across the Atlantic, for rapid economic expansion meant for the most part ample job opportunities the agricultural character of the economy to 1900 reduced the burden of caring for dependents, private insurance lessened the suffering caused by premature loss of the bread winner, and philanthropic institutions, poor farms, and orphan asylums took care of some of the worst cases Furthermore, action was delayed in the United States because interference in matters of personal well being was reserved to the states and most states were less progressive in social reform than the Federal government

In spite of such retarding factors, however, the pressure for social legislation became ever more insistent as the economy became more industrialized and workers became more dependent upon their wages for buying their daily bread and paying their monthly rent. Hesitatingly individual states of the Union, for a long time led by Wisconsin, began to enact remedial laws, and even more falteringly the courts began to declare these acts in conformity with state constitutions.

In most areas the problem first attacked was that having to do with compensation to laborers injured in the course of work. Frequently, however, the protection given was not great, for the employer could fight the claim in the courts, negligence of the worker was grounds for refusing payments, and the constitutionality of the laws was forever being contested. Nevertheless progress was made, especially after 1908 when the Federal government protected its civil workers by a liberal workmen's compensation law. By 1950 all states had adopted legislation to provide aid to workers injured on the job, but about half of the total labor force was excluded from coverage for one reason or another, and in only 26 states did these laws include protection of workers against all occupational diseases, and eight states provided no protection against occupational diseases. Inasmuch as 95 per cent of all injuries and disabling diseases in the labor force were estimated not to have been "work connected," that is, were not traceable to conditions of work, most of the health problems of laborers were not relieved by workmen's compensation. Health insurance and care constituted a large area in which the state could take further welfare action.

If America was slow in enacting satisfactory workmen's compensation laws, it was doubly slow in providing social insurance—notably old age and unemployment benefits. In fact, prior to the depression of the early 1930's, although thirty-five states made some provision for aiding the aged, payments were extremely small, and only seven states had

any form of unemployment payment arrangements During the depression, however, urgent appeals for relief came from old age groups and from the unemployed—such urgent appeals, indeed, that politicians had to listen to them Congress finally endeavored to give satisfaction by passing the Social Security Act of 1935

The new law, as amended in 1950, provided payments to the aged, or dependents of workers who died before age 65, and to the unemployed Aged workers were to be paid monthly annuities, the sum depending upon the amount of wages earned, time worked, and number of family dependents The unemployed were to be given weekly payments, one week of benefits being paid up to from 13 to 26 weeks a year according to the laws of the state in question for every four weeks of previous employment. Moneys to meet old age payments were to be had from a 3 per cent tax on wages up to $3000 a year ($3600 since January 1, 1951), one half to be paid by the employer and one-half by the employee Moneys for payments to the unemployed were to be obtained from a 3 per cent tax on payrolls payable by the employer, but the Federal government as an inducement to get the states to administer unemployment compensation allowed a deduction up to 90 per cent of their Federal tax for payroll taxes paid into state funds A state plan had to meet certain standards in order to get Federal approval for the 90 per cent credit, but within these standards state laws varied widely

In the strict sense, neither the old age or unemployment arrangement just described is insurance, they are contributory plans of social relief. The beneficiaries do not carry the entire burden of the contributions and sums paid in do not go into a common reserve fund out of which ultimate claims are met In fact, moneys received by the government go to pay government expenditures much like receipts from a tax Thus extensive unemployment would cause such a drain on the Treasury as to require the floating of bonds, and

payments would then resemble relief Nevertheless, both schemes have proved popular and have been widely adopted By 1947 about three-fifths of the working population was covered by old age insurance and the amendments of 1950, which extended coverage to agricultural labor regularly employed, to domestic servants, employees of educational institutions, and some self-employed were expected to increase this fraction to three fourths By the end of June, 1937, all states had joined in the plan for unemployment payments and by 1949 over half of the employed population was covered Railroad workers were covered by separate plans

In addition to old age and unemployment benefits the "welfare state" made public assistance available for public health, vocational rehabilitation, and school lunches All of these health and medical, welfare, and social security services in 1949 resulted in expenditures of $11,591,800,000 or 7 per cent of national income A little more than half of this sum went into social insurance and related programs and a little more than half was provided by the Federal government Clearly the efforts to mitigate possible hardships befalling workers from the operation of the capitalist system were substantial

Also the "welfare state" stands ready to take drastic measures in emergencies, as it did during the deep depression of the 1930's when it created the Public Works Administration and later the Works Progress Administration The establishment of the principle that the state is responsible for alleviating the economic hardships of those who cannot work because of the lack of jobs means that the state is beholden to the principle that the economy must be kept operating at somewhere near capacity in order to prevent unemployment —at what is frequently called full employment It was in the implementation of this doctrine that the Federal government created the various agricultural arrangements referred to earlier, the Reconstruction Finance Corporation, the Import-Export Bank, and many others It was for the same purpose

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the highest bracket was 82 per cent of net income) and to prevent evasion by a "pay-as you go" and "withholding" program adopted in 1943 and by the creation of an elaborate enforcement machinery A tax on the income of corporations was similarly levied in 1913, although there had been an excise' tax on corporate income from 1909, and this tax underwent extensive revision in the course of time Its rates were raised, it was supplemented by an excess profits tax from 1917 to 1921 and again from 1933 onward, and it was complicated by a tax on undistributed corporate profits from 1936 to 1939

Also an estate or inheritance tax was created in 1916, and subsequently gift taxes were levied to prevent older people from avoiding inheritance taxes by giving their property to their prospective heirs The estate tax is progressive with a maximum of 20 per cent Credits on this tax are allowed for estate taxes paid the states Gift taxes are also progressive

Relatively little use has been made of sales taxes that fall particularly hard on the poorer classes

Clearly in erecting the American tax structure an effort has been made to place the burden on those who can from the point of view of purchasing power bear it best The graduated income taxes contributed considerably to narrowing the gap between the rich and the poor, in fact so much that little if any more aid in the leveling process can be expected from them Also taxes have been used to reduce indulgence in extreme luxuries and to discourage the consumption of certain products like alcohol by "taxing them out of the market" of a great number of buyers Finally there has been a trend toward what is called "functional finance," that is, toward a fiscal system which will encourage business activity in poor times, prevent too great an expansion in good times, and abet steady economic growth A good example of such efforts is to be found in the graduated income taxes, which tend to curb spending in years of prosperity and stimulate it in years of depression

Functional finance is in conformity with the basic concept of the welfare state—of keeping the economy going at full tilt irrespective of what the costs may be Thus it furnishes further evidence that America is pursuing a policy which will mean continued governmental expenditures on a vast scale—expenditures which in turn will require high taxes and extensive borrowings Complain as we may of this state of affairs, we must recognize that society's assuming a responsibility for providing men with work and for alleviating the misery of those who cannot work is a sign of civilization, as we understand the term

chapter

10

THE PAST, THE PRESENT, AND THE FUTURE

1 SUMMARY OF FINDINGS

Now that we have come to the conclusion of our study it is appropriate that we take stock of our findings, for in order to be able to form wise present and future policy we need to have clearly in mind the nature of our economy, how it came to be, and what dangers will confront it in the years immediately ahead

Our economic progress is not, however, especially easy to understand, for no one "cause" can explain it all Indeed, from the preceding pages it is apparent that a great complex of factors in the right proportions and with fortuitous timing were involved in effecting it Yet complicated as this process was, it is possible to isolate from it six major elements which will aid in comprehending growth

One of the most important of these elements and the one with which we began our analysis is a bountiful endowment of natural resources In our discussion we emphasized, what everybody knows, that America was blessed with an abundance of those things of nature which were necessary to the industrial economy which came into being Moreover, we noted that, as man came to use more and more of the inorganic materials of the earth's crust which had been formed over ages of time, he had a vaster supply of raw materials

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final product enormously increased the supply of goods and services per capita of the labor force Mechanical 'slaves" and the organization of them created a major revolution in the relationship between human input and ultimate output This is a development that bids fair to continue so long as our present type of economy exists

Our third factor of economic progress was 'saving and investment ' We pointed out in this connection that machines, factories, and transportation facilities would never have come into being if man had not taken time out from the production of consumers' goods in order to make producers' goods Also we endeavored to make clear that the task here was to get people to save out of their current earnings, to amass these savings, and then to invest them, and that an elaborate network of banks, life insurance companies, brokerage houses, and corporations was involved in the performance of this job Furthermore, we contended that savings were made on a large scale because economic progress was so rapid that people were able to maintain themselves in the manner to which they had become accustomed and at the same time to put something aside for building the basic equipment of the economy

Here was a factor of growth which must certainly continue in the future if progress is to be realized, for old equipment will have to be replaced in order to work up new products in nature to take the place of those resources which are petering out In this development however, savings may well be less in the form of money than they have been in the past, for there are many indications that recent inflationary trends will continue and that people will not save for long something which is steadily losing value In the future it is likely that savings will be quickly transferred to real things or to titles to real things that do not lose purchasing power rapidly rather than be kept in currency, or in bonds, mortgages, and insurance policies the value of which is indicated in money

The fourth element treated in our analysis was the labor force In this connection we found that America had a relatively large percentage of its population of working age, in part because of immigration, and we saw that by immigration the costs of rearing and training a portion of the labor force fell on the economies whence immigrants came Also we noticed that as more and more young people went to school, an ever larger proportion of the labor force consisted of women Therefore, there was a large reserve of workers in schools training for production—a reserve which could be called upon in case of need, as during World War II We saw, too, that although the population was becoming older, that is, that the average age was getting higher, production did not suffer as a consquence Finally, we took account of the fact that in America the goal was not to have a larger population, but that it was to have a higher standard of life for the numbers which existed, as was indicated by restrictions on immigration and by a decline in the birth rate This attitude will probably continue in the future, for leaders in the country are fully aware that in the long history of mankind population has often grown faster than the supply of goods and services

Our fifth factor in economic progress was transportation and trade We endeavored to show how cheaper and more flexible means of carrying goods meant the tapping of widely dispersed natural resources, the settlement of remote areas the supplying of far flung markets, and a greater division of labor, while new methods of selling constituted a veritable marketing revolution Also we held that the internal market was expanded very considerably by the fact that the medium and lower classes got a large enough share of national income greatly to increase their consumption of goods and services We indicated that throughout the period which we have studied there has been a marked increase in the "real wages" of workers, that is, in what the money wages received would actually buy, that since 1929 there has been a

very noticeable leveling out in the shares of national income by economic classes, and that an accelerator of this process has been the "welfare state" which is committed to the economic betterment of all. Indeed, America's equalization in the comforts of life cannot be matched by any other economy, either communist or capitalist

For the immediate future, at least, it would seem that the economic conditions of the poorer classes would continue to improve Furthermore, it would appear probable that our transportation facilities would be extended, especially by the construction of more highways and that low-cost methods of distribution would become more general by the standardization of products and by self-service and mail order stores

Finally, the sixth factor in economic development we held to be those ideologies which provided incentive to greater output We stated that most of the people who came to the United States wanted to improve their material lot and that those who were raised in America faced conditions which required them to work and to work hard Indeed, we contended that the desire for material well-being constituted a definite part of the American "character"—that composite of ideologies by which and for which Americans lived

Although the desire to improve one's material circumstances is bound to be great in the years to come, there is much evidence to show that the impulse to acquire additional goods and services is becoming less an end in itself and more and more a means towards an end—to the attainment of a higher level of civilization Although it is frequently said that Americans have no common goal for which they strive, for they come from many different nations, have different religions, and entertain different philosophies of life, it is fair to say that most Americans want their country to have a higher civilization and that they are fairly well agreed on what must be done to realize their desire In general, it would seem that there are fewer sheer "money grubbers" now than there were fifty years ago Many of our wealthy citizens use part

of their surplus to build or endow art galleries and universities instead of overindulging their appetites, and many of our medium and lower income groups put a large portion of their earnings into the education of their children and into the arts instead of solely into more luxurious consumers' goods for themselves

These are encouraging signs, for in every culture for which we have adequate records peaks of material well being have a close correspondence with or come shortly before peaks in civilization This is because a large surplus of goods provides leisure for the pursuit of the arts, furnishes more equanimity in human relations because individuals are relatively well satisfied with what they have, and insures a greater and more intensive exchange of ideas among men because of trade and travel In short, by increased economic well being the range of opportunities available to man is lengthened and upon this range depends in large part the development of civilization

II EVIDENCE OF PROGRESS IN AMERICAN CIVILIZATION

At this point the question can be legitimately asked whether or not there is evidence from the American scene that material well-being is leading to the creation of a higher civilization This is, however, an exceedingly difficult question to answer, so difficult in fact that most people who are confronted with it take refuge behind that old cliche, 'only time can tell"

On two counts there can be no doubt but that, both relative to what has existed in America and to what exists elsewhere, real progress has been made In the first place and with all due respect to crime waves, divorce rates, strikes and warring factions in university faculties, it can be said without danger of contradiction that Americans have managed to create a way of life in which they live in comparative harmony with one another And in the second place,

and in spite of the depletion of natural resources, the mining of the soil, and devastating floods, it can be claimed that man has greatly extended his control over his physical environment

The more these two aspects of the American scene are elaborated, the more impressive as achievements in civilization do they become In America the rules of human conduct are in general well known and just, and those which are not just, like the treatment of racial minorities, are the object of attack by a large and influential body of citizens If a man is believed to be breaking the established laws of the land he is entitled to a fair trial and is considered innocent until proved guilty And if found guilty, an effort is made to reform him and not to cast him completely out of society In recent times we have had no mass use of force to settle disputes and we have been free from the arbitrary compulsions of dictatorship Moreover we find that it is unnecessary to build insurmountable walls around our homes for protection, as is the custom in most parts of Western Europe, and we are able to enjoy the convenience of writing checks and of having charge accounts because most people can be trusted

Although there is always a hue and cry about such things as corruption in government, the success of gangsters, the use of narcotics by juveniles, and sharp dealings by some businessmen, such criticism is a manifestation of efforts to eradicate evil as well as an indication that it exists In a dictatorship or in a society where the standards of human conduct are low, the uncovering of and attack upon the kind of abuses just mentioned might never take place and the absence of publicity regarding such matters might lead one to believe that everything was perfect

Concerning control over physical environment, we are of the opinion that America has done remarkably well Its people have a longer expectation of life at birth than those of any other major country They have what is probably the

best health record, that is, the lowest incidence of disabling diseases except in the older age groups, of any large, contemporary society They have one of the most satisfactory diets in the world, judged on the basis of increase in stature of individuals They have prevented famines, they have made arid areas bloom by irrigating them, and they have converted large quantities of natural resources into things useful to man Indeed, the very fact that Americans enjoy the greatest income per capita of any national group is an earnest of what has been accomplished in this phase of civilization

When we come to a consideration of progress in artistic and intellectual creativeness, judgments become less certain, for in these areas it is exceedingly difficult to find objective criteria for determining what is great and what is mediocre Perhaps the surest basis which we have at present for coming to some conclusion regarding quality of achievement is the judgment of "competent" men in a given field What is most universally and most consistently held by them to be of a high order can be considered by us to be great

In the application of this method of measuring accomplishment, we come to the conclusion that America has been making rapid strides forward If one looks at Nobel Prize Awards, first given in 1901, one is amazed to find that up to World War I Americans were conspicuous by their almost complete absence from the list of recipients Then gradually the names of Americans become more numerous, until in the period since 1940 they outnumber those of most other countries In general, it may be said that Europeans now have a vastly greater interest in and respect for the accomplishments of Americans in all phases of intellectual and artistic pursuits than they did half a century ago

Undoubtedly America's most extraordinary achievements when compared with the accomplishments of man throughout all history have been, as one might expect, in the physical sciences, for the most remarkable creations of mankind in recent times have been in this area. The fact that nuclear

fission was actually realized on American soil, even though with the aid of European scientists, is perhaps the most dramatic evidence of what has been done But this is not an isolated example of achievement in the physical sciences There have been such important advances in chemistry as the iso lation of vitamins, in electronics as the development of tele

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In the social sciences America has also made contributions which are recognized as great both in comparison with what has been done in former ages and with what has been pro duced in other parts of the world in the last twenty five years The work of Wesley C Mitchell in the field of economics, that of W I Thomas in sociology, that of Franz Boas in an thropology, that of Charles H MacIlwain in political science and that of Charles A Beard in history are acknowledged as of an excellence which will make them live for years and perhaps centuries to come The publication of the *Encyclopedia of the Social Sciences* is generally considered to have been one of the important events in the field in recent times And in philosophy, America has had in John Dewey a thinker who gave expression to ideas which constitute a major contribution to the integration of human activity for the purpose of establishing a more desirable social order

It is probably in the arts where Americans have made the poorest showing No Dante, no Shakespeare, no Michelan gelo, no Beethoven has yet appeared on the American scene, or if he has, no one has recognized him Perhaps this failure in the esthetic side of life has been owing to some extent at least to the ability of Americans to get esthetic enjoyment out of sports, out of their work, and out of nature, to some degree to a lack of "taste," as judged by the conoscenti, and in some measure to a slavish imitation of imported styles which have no roots in American soil

Yet one must not forget that great masters, like those

named above, are rare in any society and also one must recognize that America can point to some noteworthy successes in the arts In the field of architecture, for example, there are, in addition to the horrors constructed in a mad rush at the beginning of the century in our large cities and to the monstrosities which line many of our main streets, some excellent buildings Most of those competent to judge will acknowledge that Radio City, the School of Engineering at Northwestern University, the Prudential Life Insurance Building in Los Angeles, and many of our suburban and country homes will measure up to anything constructed in recent times in any other parts of the world and may even rank with great architecture of all time Among our architects Frank Lloyd Wright is universally recognized as one of the very greatest contemporaries in his profession and his functional style, which has found such extraordinary application in American factories, is generally considered to be one of the most important achievements of this country in the building field

In literature, even if America has not had colossi of absolutely first rank, it has had writers who stand high on the contemporary scene Among novelists there have been Sinclair Lewis, Pearl S Buck, William Faulkner, and John Steinbeck of whom we can be justly proud Among poets there have been Stephen Vincent Benét, Edward Arlington Robinson, and Archibald MacLeish And among playwrights there have been Eugene O'Neill, Maxwell Anderson, Tennessee Williams, and Arthur Miller

In painting, also, America has not had great masters yet we have had artists of whom we need not be ashamed There have been, for example, Edward Hopper, Georgia O Keeffe, Grant Wood, Thomas Hart Benton, and J S Curry In sculpture, the record has been much the same, yet with the works of men like Saint Gaudens, George G Barnard, Jacob Epstein, William Zorach, and Alfeo Faggi bringing honor to the American branch of the profession

In ballet we have had really distinguished achievement from choreographers like Martha Graham, Hanya Holm, Doris Humphrey, and Charles Weidman In music there have been George Gershwin, master of the characteristically American jazz form, Carlo Menotti, whose *Consul* has been favorably received in Europe, and Aaron Copland and Roger H Sessions whose symphonic compositions are generally recognized to be of a high order And in the cinema we have such artists as Charlie Chaplin and Walt Disney

Then there is another aspect of our creative scene which must not be overlooked For one reason or another many outstanding foreigners have come to our shores and have had at least a part of their careers with us Among such persons the names of Albert Einstein, the physicist, Igor Stravinsky, the composer, Arturo Toscanini, the conductor and Ivan Mestrovic, the sculptor, come to mind Their very presence indicates that there is something congenial to the creator in our environment

At all events, even our abbreviated roll call of some of America s contributors to civilization is impressive and provides evidence of effort being expended to lift our culture to a higher plane But there are other straws in the air to show which way the wind is blowing In 1950 Americans are said to have spent more money to go to "classical music concerts than they did to go to baseball games They put out, even after allowances are made for price increases, nearly twice as much for books as they had a decade earlier They expended 85 per cent more for the legitimate theater and for opera than they had in 1940 And they had nearly 45 per cent more of their youth in colleges and universities than they had ten years previously [1] Something certainly had happened in America when we think that the President of the United States played classical music for relaxation, when one of the highest ranking generals of the army spent his Sunday afternoons with pallet and brushes, and when businessmen

as well as housewives joined painting clubs, amateur symphonies, and literary societies throughout our land

III. DANGERS BEFORE US

It would be unfortunate, however, if the reader got the impression from what has been said that America has already developed an extraordinarily high civilization in all respects or that progress toward civilization is automatic—and that all one has to do is to sit back and watch it happen If this has been the reader s reaction, it only goes to emphasize one of the dangers to progress in civilization which lurks in the shadows—the danger of complacency We might as a people easily come to believe that our great wealth per capita will as a matter of course lead us to great heights The way up is unfortunately not as simple as that Let us be under no illusions about ourselves We must recognize that much remains to be done to improve the orderliness of our society and that what should be done will require great effort Also we should not be blind to the fact that it will be even a more difficult task to develop ' superior tastes ' among our fellows

There are indeed many Americans who are far from being able to recognize beauty when they see it or to insist upon getting it when they know what it is There are relatively few of us who have an appreciation for or an ability to execute learned forms of art, which characterize the masterpieces of all time And there are extremely few Americans who have the patience to learn, let us say, the techniques of poetry or of music and who so love perfection that an observer could predict the creation of the great American "epic' or the great American symphony in the foreseeable future We are still a very hurried people, accustomed to jerry built houses, books, and plays Perhaps we must settle down and develop ' taste" for several generations before we can expect to reach the height of achievement

Then, as has been said earlier, that part of the foundation

of our civilization which is economic in character cannot be assumed to be growing forever stronger, for our natural resources are being used up, we cannot be sure of always supplementing what we have with imports, and our population might grow at a rate which could not be matched by increases in production Nor should we forget that the larger the population in relation to resources the more difficult is it for people to effect those savings necessary to make investments for growth

In the more immediate future, however, the greatest danger which threatens American progress in civilization is not economic, nor the failure of people to devote more of their time and energies to creative activity, nor tensions upon the domestic front The real danger is foreign war So much evidence of the devastating effect of modern war has recently been made available to all of us that there is no necessity of belaboring the point here One should not forget, however, that war is the very negation of the civilizing process It means a complete failure in the development of orderly relations among human beings It means a diversion of energies from esthetic and intellectual pursuits and from efforts to extend man's control over his physical environment It means a destruction of many of the masterpieces of the past and the weakening of the economic base which is conducive to progress in civilization

In spite of all the most obvious results of war mankind has not yet displayed an ability to avoid recourse to force to settle some of its differences If America has one challenge among all others in its role of world leadership, it is to devise ways and the will for settling international differences without violence

IV THE HOPE OF THE FUTURE

When one endeavors, as we are doing here, to analyze those forces which may carry American civilization upward

or downward in the next hundred years, one is apt to leave the reader completely unsatisfied and with a sense of great uncertainty Unfortunately we can only put down what may be "reasonably expected" in the light of experience, in view of present factors at work, and with the probability that certain forces will be operative in the future

Within these limits, I believe that, if America can avoid great devastating wars, it can look forward to achieving within the next century one of the greatest civilizations of all times This country has the potentialities for greater economic well being than any other in the world and, as we have stated, the abundance of goods and services per capita has accompanied or preceded the highest peaks of civilization attained in the various cultures of which we have knowledge

There are signs that already Americans are getting results in all aspects of civilization, even in the esthetic where they are admittedly the weakest And there is abundant evidence of an earnest desire on the part of most Americans for creative achievement in all phases of life More and more there is a realization that man can be satiated with humdrum material things, but that he can never have enough justice, order, happiness, and beauty—the real stuff of civilization The realization of this great truth is one of the most encouraging signs in the America of today

NOTES

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2 D Anderson and P E. Davidson, *Occupational Mobility in an American Community* (Stanford, California Stanford University Press, 1936)

CHAPTER 2

1 Solomon Fabricant, *Output of Manufacturing Industries* (New York National Bureau of Economic Research, 1940), pp 6-9

2 *Industrialization and World Trade* (League of Nations, 1945), p 13

3 *Economic Journal*, April, 1943

CHAPTER 3

1 James Phinney Baxter, III, *Scientists Against Time* (Boston Little, Brown, 1946)

2 Solomon Fabricant, *Employment in Manufacturing* (New York National Bureau of Economic Research, 1942), Colin Clark, pp 296-305, Frederick C. Mills, *Economic Tendencies in the United States* (New York National Bureau of Economic Research, 1932), and Edmund E. Day and Woodlief Thomas, *The Growth of Manufactures, 1899 1923* (Washington Government Printing Office, 1928)

3 Colin Clark, *Conditions of Economic Progress* (New York The Macmillan Company, 1951), pp. 290-305

4 Edgar M Hoover, *The Location of Economic Activity* (New York McGraw Hill, 1948), pp 155 156

5 See A. F Bemis and John Burchard, *A History of the Home*, vol I of "The Evolving Home" (Cambridge Massachusetts Institute of Technology, 1933)

CHAPTER 4

1 On grants to railroads, see *Public Aids to Transportation* (Washington Government Printing Office, 1938) vol. 2, p 111 On

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Statistics on land distribution under the Homestead Act Timber Culture Act, and Desert Land Act were compiled by Paul W Gates from *Reports of the General Land Office* and of the Treasury Department

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3 C. W Crickman, *Feed Grains and Meat Animals in War and Peace* (Washington U S. Department of Agriculture, 1946)

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6 Richard Osborn Cummings, *The American and His Food A History of Food Habits in the United States* (Chicago The University of Chicago Press, 1940), pp 43 52

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2 Colin Clark, *op cit*, pp 322 and 327

3 *Network of World Trade* (League of Nations, 1942), and Hal B Lary and associates, *The United States in the World Economy* (Bureau of Foreign and Domestic Commerce, 1943)

4. *Industrialization and World Trade* (League of Nations 1945), p 14

5 Harold G Moulton and Leo Pasvolsky, *War Debts and World Prosperity* (1932)

6. *Report to the President on Foreign Economic Policies* (Wash [illegible] Government Printing Office, 1950), p 25

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CHAPTER 6

1 Albert G Hart, *Money, Debt, and Economic Activity* (New York Prentice Hall, 1948)

2 *The United States at War* (Washington Government Printing Office, 1946), chapter 9 Also *OPA Monographs* and Seymour E. Harris, *Inflation and the American Economy* (New York McGraw-Hill, 1945)

CHAPTER 7

1 See Francis E. Merrill, *Social Problems on the Home Front* (New York Harper and Bros, 1948), pp 15 18

2 Collective bargaining consists of negotiations between representatives of employers and of organized employees in an industry for the purpose of establishing a contract regarding working conditions for the whole industry or for a section of it.

Under the NRA a blanket code covered local industries for which no general industrial code was possible

CHAPTER 8

1 See George W Stocking and Myron W Watkins, *Monopoly and Free Enterprise* (New York Twentieth Century Fund, 1951), pp 491 ff

2 David Lynch, *The Concentration of Economic Power* (New York Columbia University Press, 1946)

3 See Carl Shoup, Roy Blough, and Mabel Newcomer, *Facing the Tax Problem* (New York Twentieth Century Fund, 1937) chapter 7

4 James Burnham, *The Managerial Revolution* (New York John Day, 1941)

5 See the testimony of Chester Barnard, formerly a top executive in the telephone industry and one of the most enlightened [illegible] *The Functions of the Executive* (Cam[illegible] ress, 1938)

[illegible] *and Social History of Federal* [illegible] on & Company, Inc, 1942)

CHAPTER 9

1 For the latter, see *Rise and Fall of Civilization, op cit*

2 Wesley C. Mitchell, 'Business Cycles," *Encyclopedia of the Social Sciences*, and *Business Cycles The Problem and Its Setting* (New York National Bureau of Economic Research, 1927), and W Thorp, *Business Annals* (New York National Bureau of Economic Research, 1926)

3 See Shepard B Clough, *A Century of American Life Insurance* (New York Columbia University Press, 1942)

CHAPTER 10

1 See Fenton B Turck, 'Science on the March," *The Scientific Monthly*, September, 1952 Also, *The Wall Street Journal*, December 18, 1951

Table 1

COMPARATIVE NATIONAL INCOMES [a]
OF SELECTED COUNTRIES

Country	Year	Total Produced Real National Income in I U.'s [b] (billions)	I U.'s Produced per Year per Person in Work
United States	1947	152.7	2566
Canada	1947	11.05	2247
United Kingdom	1947	30.14	1383
France	1938	11.91	715
Switzerland	1938	1.58	879
Italy	1947	4.73	354
Germany	1937	31.4	1130
Australia	1947–48	4.91	1511
New Zealand	1947–48	1.54	2281
USSR	1938	24.5	302

[a] Colin Clark, *The Conditions of Economic Progress* (New York, Macmillan, 1951)

[b] An "international unit" is what one dollar would buy in the United States over the average of the period 1925–1934

Table 2

CONTRIBUTIONS TO NATIONAL INCOME BY SEGMENTS OF THE ECONOMY [a,b]
1869 1950
(Percentages Based on Current Prices)

Average of	Agri cul ture	Min ing	Manu fac- tur ing	Con struc- tion	Trans porta tion	Trade	Serv ice	Gov t	Fi nance and Misc
1869 & 79	20 5	1 8	13 9	5 3	11 9	15 7	14 7	4 4	11 7
1879 & 89	16 1	2 1	16 6	5 5	11 9	16 6	13 6	4 9	12 6
1889 & 99	17 1	2 5	18 2	4 9	10 7	16 8	11 8	6 0	12.0
1899–08	16 7	3 1	18.4	4 5	10 7	15 3	9 6	5 6	16 0
1904–13	17 0	3 3	18 9	4 3	11 0	13 0	8 9	5.4	16 2
1909–18	17 7	3 3	20 8	3 2	10 7	14 5	8 2	6 3	15.4
1914 23	15 2	3 3	22 2	3 0	11 0	14 0	8 3	7 9	15 0
1919–28	12 2	3 1	22 2	3 9	11 3	13 7	9.4	8 6	15 7
1940 [b]	6 8	2 0	26 2	2 8	10 0	15 5	9 68	13 3	13 3
1950	7 2	2 0	30 7	4 8	8.4	16 6	9 1	10 0	7 9

[a] S mon Kuznets, *National Income A Summary of Findings* (New York National Bureau of Economic Research 1946) p 40

[b] *Survey of Current Business* January and February 1951

Table 3

PERCENTAGE DISTRIBUTION OF GAINFUL WORKERS BY OCCUPATIONAL DIVISIONS

Year	Agriculture	Forestry and Fisheries	Mining	Mfg and Mechanical Industries	Construction	Transportation and Communication	Trade	Public Service (not Incl Elsewhere)	Professional Services	Domestic and Personal Service	Clerical Occupations			Not Allocated
1850	63 6	0 4	1 1	16.3		0 5	4 0		12 2					
1860*	58 9	0 4	1 6	18 3		0 7	4 0		12.4					
1870	53 0	0 5	1 4	20 5		4 2	6 8	0 7	2 6	9 7	0 6			
1880	49.4	0 6	1 7	22 1		4 8	7 9	0 8	3 2	8 8	0 9			
1890	42 6	0 8	1 9	23 7		6 0	8 8	0 9	3 8	9 6	2 0			
1900	37 5	0 7	2.4	24 8		6 7	10 6	1 0	4 1	9 7	2 5			
1910	31 0	0 6	2 6	28 5		7 1	9 7	1 2	4 6	10 1	4 6			
1920	27 0	0 6	2 6	30 3		7 3	10 1	1 7	5 1	8 0	7 3			
1930	21 4	0 5	2 0	28 9		7 9	12 5	1 8	6 7	10 1	8 2			

Revised Headings for 1940 & 1950

								Finance and Real Estate	Educational Service	Other Prof Service	Domestic Service	Personal Service	Gov't not Elsewhere Classified	Not Allocated
1940	16 8	0 3	2 08	22 4	6 58	7 78	13.4	2 9	3 15	4.35	4 89	5 81	3 17	6 19

19

Table 4

NATIONAL INCOME,[a]
TOTAL AND PER CAPITA, 1869–1950
(1929 Prices)

Year	National Income Billions of $	Population Millions	Per Capita $	Percentage Change in National Income from Decade to Overlapping Decade
1869–78	9 3	43 5	215	
1874–83	13 6	48 8	278	+45 6
1879–88	17 9	54 8	326	+31 4
1884–93	21 0	61 2	344	+17 7
1889–98	24 2	67 6	357	+14 9
1894–03	29 8	74 3	401	+23 1
1899–08	37 3	81 5	458	+25 5
1904–13	45 0	89 6	502	+20 5
1909–18	50 6	97 7	517	+12.4
1914–23	57 3	105 0	546	+13 3
1919–28	69 0	112 8	612	+20 6
1924–33	73 3	120 6	607	+ 6 1
1929–38	72 0	126 0	572	− 1 7
1930[b]	78 1	123 0	635	
1940	100 0	132 0	757	
1950	153 0	151 0	1013	

[a] Kuznets *op cit*, p 32

[b] Gross national product in place of national income, and 1939 dollars *Survey of Current Business*, January and February 1951

Table 5

REAL PRODUCT PER MAN-HOUR IN THE UNITED STATES
(In International Units)

Year	Agricultural	Manufacturing
1870	0 101	0 209
1880	0 121	0 240
1890	0 131	0 284
1900	0 155	0 343
1909–1911	0 181	0.402
1919–1921	0 207	0 581
1929–1931	0 257	0 767
1939–1941	0 282	1.070

... Based primarily on Harold Bar ... -1939 (New York ... Solomon Fabricant, ... ureau of Economic Research, 1942)

Table 6

RELATIVE IMPORTANCE OF SOURCES OF HEAT AND ENERGY
(In Percentages)

Area	Year	Coal and Lignite	Oil	Natural Gas	Fire-wood	Water Power
World	1913	74 1	4 5	1.4	17 6	2.4
World	1935	60 3	16 5	3 8	12 8	6 6
World	1948	54 8	24 6	7 3	7 2	6 1
Europe (excluding U.S.S.R.)	1949	81 7	11.4	..	. .	7 9
United States	1948	47.0	34 0	15.0	. .	4 0

From Erich W Zimmermann, *World Resources and Industries* (New York Harper & Brothers, 1951), p 454.

Table 7

PRODUCTION OF COAL IN SELECTED COUNTRIES
(In Millions of Metric Tons)

Year	United States	United Kingdom	Germany	USSR
1860	15.2	80.0	12.3	
1871	42.5	117.4	29.3	
1880	64.8	147.0	47.0	
1890	143.1	181.6	70.2	
1900	244.6	225.2	109.3	
1913	571.1	292.0	190.1	
1937	451.2	244.2	225.2	110.5
1947	624.0	202.9	121.4	175.0 (est.)

Table 8

WATER POWER IN THE UNITED STATES

Year	In Trillions of British Thermal Units, Constant Fuel Equivalents	Hydroelectric Production in Thousands of Kilowatt Hours
1889	91	
1900	146	•
1912	538	7,387,500
1922	1,024	21,261,656
1932	1,900	35,997,809
1942	3,485	69,132,585
1945	4,463	84,747,079

Historical Statistics of the United States, pp. 155-156.

Table 9

WORLD PIG IRON AND STEEL PRODUCTION
(In Millions of Short Tons)

Country	1860 Pig Iron	1870 Steel	1890 Iron	1890 Steel	1920 Iron	1920 Steel	1948 Iron	1948 Steel
United States	0 9	0 04	10 1	4 7	40 0	46 3	61 0	88 4
United Kingdom	4 3	0 24	8 7	3 9	7 6	10 0	10 3	16 4
Germany	0 6	0 14	4 4	2 3	8 8	10 0	6 4	6 0
France		0 09	2 1	0 8	3 7	3 3	7 2	8 0
Russia		0 01		0 6		0 2	18 5	22 2
Total + all other countries	8 0	0 56	29 4	13 5	67 5	77 8	125 9	169 5

Table 10

GROSS CAPITAL FORMATION AS PER CENT OF NATIONAL INCOME

Annual Average	Gross Producer Durable Goods	Gross Construction	Net Changes in Inventories	Net Changes in Claims on Foreign Countries
1869–1878	5 1	9 9	5.4	−1 7
1874–1883	5 2	9 4	5 2	−0 8
1879–1888	5 1	10 9	3 6	−0.4
1884–1893	5 0	14 0	2 3	−0 3
1889–1898	4 9	14 6	1 8	
1894–1903	5 3	13 0	3 1	−0 3
1899–1908	6 0	12 6	1 9	−0 3
1904–1913	5 8	12 2	2 0	−0 2
1909–1918	6 9	9.4	2 0	+2.4
1914–1923	7.4	8 3	2 9	+3 1
1919–1928	7 0	10 5	2 2	+1 2
1924–1933	*6 5*	*10 5*	−0.1	+0 5
1929–1938	6 2	7 5	0 1	+0 3

Derived from Kuznets, *op cit*

Table 11

NET CAPITAL PER WAGE EARNER EMPLOYED IN UNITED STATES MANUFACTURES, 1943

Chemicals and allied products	$17,227
Food and kindred products	8,387
Leather and its products	2,361
Lumber and wood products	2,577
Metal products and processes	4,955
Paper and pulp	6,523
Printing and publishing	6,835
Rubber products	6 561
Stone, clay, and glass products	4,926
Textiles	2 387
Miscellaneous	5,501

Table 12

REGIONAL DISTRIBUTION OF MANUFACTURING VALUE ADDED BY MANUFACTURE

(In Percentages)

Region	1919	1939	Government Wartime Expenditures, 1940–1944
New England	12.90	9 84	5 10
Middle Atlantic	33 67	29 99	18 75
East North Central	28.42	31 53	30 51
West North Central	5 63	5 52	6 91
South Atlantic	7.42	9 05	6 74
East South Central	2 65	3 36	6.06
West South Central	2 91	3 34	10 60
Mountain	1 25	1 11	3 38
Pacific	5 15	6.46	8 77
Undistributed			3 18

Table 13

RATIO OF PRICES RECEIVED BY FARMERS TO PRICES PAID BY FARMERS
(1910–1914=100)

Year	"Parity Ratio"
1910	106
1915	93
1920	104
1925	92
1930	80
1932	55
1935	84
1940	80
1945	117
1949	100

Table 14

RELATIVE CONCENTRATION OF MANUFACTURING EMPLOYMENT IN THE UNITED STATES

Area or City Size Class	1899	1919	1929	1937
33 Census Industrial Areas	203	176	156	154
Remainder of United States	61	63	68	70
Cities by size 1930				
500,000 and over	201	158	146	141
100,000–500,000	201	165	150	142
25,000–100,000	210	183	168	177
Remainder of U.S	56	60	64	67

Manufacturing wage earners per 1000 population in area or size class as percentage of manufacturing wage earners per 1000 population in the United States as a whole

Table 15

USES OF FARM LAND, 1849–1949
(In Millions of Acres)

Year	Land in Farms	Land Available for Crops	Cropland Harvested	Acres Harvested per Capita of the Population	Harvested Acres per Worker in Agriculture
1848	293	113			
1869	408	189	122		17.9
1889	623	358	220	3.5	22.1
1909	879	478	311	3.4	26.1
1929	987	522	359	2.9	34.2
1949	1,100	550	395	2.8	40.5–43.0

Table 16

UNITED STATES CARRIERS

Type of Carrier	Billions of Passenger Miles		Billions of Ton Miles	
	1916	1940	1940	1946
Railroads	42.0	23.8	376.2	602.2
Buses		11.4		
Trucks			48.5	66.1
Inland waterways (including Great Lakes)	0.9	1.3	117.3	123.1
Air carriers		1.0	0.14	0.78
Pipelines (oil)			71.3	92.5

Source 55th *Annual Report*, Interstate Commerce Commission 1947

Table 17

AMERICAN FOREIGN TRADE BY CLASSES OF COMMODITIES, (IN VALUE AT CURRENT PRICES)
(In Percentages)

Year or Yearly Average	Exports U S Merchandise Per Cent					Total General Imports Per Cent				
	Crude Materials	Crude Foods	Manu factured Foods	Finished Manu factures	Semi manu factures	Crude Materials	Crude Foods	Manu factured Foods	Finished Manu factures	Semi manu-tures
1861–65	19.97	22.13	34.42	17.78	5.69	14.12	14.29	17.47	40.52	13.60
1866–70	57.62	9.05	13.75	14.89	4.68	11.71	13.23	19.93	41.26	13.87
1871–75	44.94	15.47	19.59	15.33	4.67	16.12	14.12	20.07	36.13	13.56
1876–80	32.24	23.93	24.39	14.87	4.55	18.55	18.16	21.49	29.35	12.45
1881–85	33.78	21.00	25.50	14.94	4.78	19.98	14.90	19.15	32.25	13.73
1886–90	38.13	14.98	25.01	16.36	5.52	22.65	15.77	16.49	29.33	15.76
1891–95	33.67	17.21	27.22	15.57	6.32	23.59	18.66	17.92	25.45	14.37
1896–00	26.11	18.90	24.01	21.33	9.64	29.47	15.08	15.93	26.17	13.35
1901–05	30.27	12.19	22.16	24.07	11.30	33.38	12.92	12.36	24.69	16.65
1906–10	31.68	8.90	18.12	27.07	14.23	34.56	10.98	11.80	24.84	17.82
1911–15	30.74	8.83	14.32	30.70	15.41	34.91	12.80	12.56	22.36	17.37
1915–20	18.22	9.16	17.66	39.58	15.39	40.13	12.15	16.21	14.40	17.10
1921–25	27.54	9.74	13.93	36.33	12.45	37.40	11.09	12.99	20.86	17.66
1926–30	24.40	6.40	9.72	45.35	14.14	36.80	12.56	9.88	21.88	18.89
1931–35	30.23	3.85	8.83	42.57	14.51	28.91	15.61	13.73	23.03	18.72
1936–40	19.05	3.77	5.53	52.36	19.29	33.08	13.10	14.16	18.72	20.94
1941–45	5.76	1.67	11.64	71.54	9.40	32.88	16.39	11.53	18.00	21.19
1946	14.90	6.81	16.03	52.82	9.43	35.48	16.99	10.49	17.63	19.41
1947	11.08	5.96	10.41	60.39	12.17	30.89	18.02	11.62	17.41	22.06
1948	11.91	10.12	10.54	56.48	10.94	30.17	17.93	10.31	18.47	21.02

AMERICAN FOREIGN TRADE, BY REGIONS
(*Percentages of Total*)

Year or Yearly Average	Per Cent of Total Exports							Per Cent of Total Imports						
	North America		South America	Europe	Asia	Oceania	Africa	North America		South America	Europe	Asia	Oceania	Africa
	Northern	Southern						Northern	Southern					
1860	6.9	8.8	4.7	74.8	2.4	1.5	1.0	6.7	12.5	9.9	61.3	8.3	3	1.0
1865	10.0	20.5	7.2	57.7	1.4	2.4	8	14.7	19.5	9.7	48.2	6.1	5	1.4
1870	5.5	7.9	3.9	79.8	1.5	1.0	5	8.3	17.1	9.9	55.1	8.7	4	6
1871–75	6.4	7.2	4.0	80.2	1.0	8	4	5.9	16.6	11.0	55.6	9.7	.7	.6
1876–80	5.0	5.4	3.3	83.1	1.7	1.1	.6	5.6	17.6	13.8	50.3	11.3	9	5
1881–85	5.4	5.7	3.6	81.1	2.2	1.6	.5	6.3	14.4	11.4	55.1	10.5	1.7	6
1886–90	5.2	5.8	4.3	79.3	2.8	2.0	5	5.6	13.8	11.5	56.0	10.4	2.3	5
1891–95	5.5	6.8	3.7	79.5	2.3	1.6	.6	4.6	16.3	14.9	50.6	10.8	2.1	6
1896–00	6.9	5.6	3.1	76.7	3.9	2.3	1.5	5.0	10.3	13.2	52.6	14.6	3.1	1.3
1901–05	8.6	6.7	3.2	72.3	5.3	2.0	1.9	5.4	13.3	12.5	51.3	15.4	.9	1.1
1906–10	10.2	8.7	4.6	68.2	5.5	1.8	1.0	5.9	13.4	11.7	51.3	15.2	1.2	1.2
1911–15	14.2	7.7	5.2	64.0	5.6	2.2	1.1	7.7	14.5	12.8	46.6	15.8	1.1	1.4
1915–20	12.0	7.7	5.5	63.2	8.6	1.7	1.3	12.7	17.5	17.6	20.3	27.1	2.1	1.7
1921–25	14.3	10.1	6.8	52.7	11.3	3.2	1.6	11.5	14.9	12.2	30.4	27.3	1.6	2.1
1926–30	17.4	8.4	9.4	46.8	12.0	3.7	2.3	11.9	11.4	13.5	29.9	29.7	1.3	2.3
1931–35	14.8	8.0	7.0	47.4	17.3	2.4	3.1	13.8	10.3	14.3	30.1	28.7	9	1.9
1936–40	16.1	9.0	9.9	41.4	16.6	2.7	4.2	14.8	9.9	13.6	25.3	31.6	1.5	3.3
1941–45	12.9	5.7	5.0	56.4	8.0	3.6	8.4	27.2	16.8	22.7	8.2	13.6	5.3	6.2
1946	15.0	11.0	11.8	42.2	13.8	1.2	5.0	18.5	14.9	22.3	16.3	18.0	3.7	6.2
1947	14.7	11.9	16.3	35.9	13.3	2.2	5.7	19.7	17.7	21.6	14.3	18.3	2.7	5.7
1948	15.4	11.5	15.1	33.9	16.6	1.2	6.2	22.4	13.3	21.9	15.7	18.9	2.3	5.5

Source *Statistical Abstract of the United States*, 1948, p 924, *ibid.*, 1949 p 870

Table 17

AMERICAN FOREIGN TRADE BY CLASSES OF COMMODITIES, (IN VALUE AT CURRENT PRICES)
(In Percentages)

Year or Yearly Average	Exports U S Merchandise, Per Cent					Total General Imports Per Cent				
	Crude Materials	Crude Foods	Manu factured Foods	Finished Manu-factures	Semi manu-factures	Crude Materials	Crude Foods	Manu factured Foods	Finished Manu-factures	Semi-manu-tures
1861–65	19.97	22.13	34.42	17.78	5.69	14.12	14.29	17.47	40.52	13.60
1866–70	57.62	9.05	13.75	14.89	4.68	11.71	13.23	19.93	41.26	13.87
1871–75	44.94	15.47	19.59	15.33	4.67	16.12	14.12	20.07	36.13	13.56
1876–80	32.24	23.93	24.39	14.87	4.55	18.55	18.16	21.49	29.35	12.45
1881–85	33.78	21.00	25.50	14.94	4.78	19.98	14.90	19.15	32.25	13.73
1886–90	38.13	14.98	25.01	16.36	5.52	22.65	15.77	16.49	29.33	15.76
1891–95	33.67	17.21	27.22	15.57	6.32	23.59	18.66	17.92	25.45	14.37
1896–00	26.11	18.90	24.01	21.33	9.64	29.47	15.08	15.93	26.17	13.35
1901–05	30.27	12.19	22.16	24.07	11.30	33.38	12.92	12.36	24.69	16.65
1906–10	31.68	8.90	18.12	27.07	14.23	34.56	10.98	11.80	24.84	17.82
1911–15	30.74	8.83	14.32	30.70	15.41	34.91	12.80	12.56	22.36	17.37
1915–20	18.22	9.16	17.66	39.58	15.39	40.13	12.15	16.21	14.40	17.10
1921–25	27.54	9.74	13.93	36.33	12.45	37.40	11.09	12.99	20.86	17.66
1926–30	24.40	6.40	9.72	45.35	14.14	36.80	12.56	9.88	21.88	18.89
1931–35	30.23	3.85	8.83	42.57	14.51	28.91	15.61	13.73	23.03	18.72
1936–40	19.05	3.77	5.53	52.36	19.29	33.08	13.10	14.16	18.72	20.94
1941–45	5.76	1.67	11.64	71.54	9.40	32.88	16.39	11.53	18.00	21.19
1946	14.90	6.82	16.03	52.82	9.43	35.48	16.99	10.49	17.63	19.41
1947	11.08	5.96	10.41	60.39	12.17	30.89	18.02	11.62	17.41	22.06
1948	11.91	10.12	10.54	56.48	10.94	30.27	17.93	10.31	18.47	23.02

Table 21

WHOLESALE PRICES
(Bureau of Labor Statistics Index, 1925=100)

1860	60.9	1910	70.4
1865	132.0	1915	69.5
1870	86.7	1920	154.4
1875	77.7	1925	103.5
1880	65.1	1930	86.4
1885	56.6	1935	80.0
1890	56.2	1940	78.6
1895	48.8	1945	105.8
1900	56.1	Dec 1950	175.3
1905	60.1		

Table 22

POPULATION OF CONTINENTAL UNITED STATES, 1790-1950

Census Date	Population	Increase over Preceding Census	
		Number	Per cent
1950	150,697,361[a]	19,028,086	14.5
1940	131,669,275	8,894,229	[illegible]
1930	122,775,046	17,064,426	16.1
1920	105,710,620	13,738,354	[illegible]
1910	91,972,266	15,977,691	[illegible]
1900	75,994,575	13,046,861	[illegible]
1890	62,947,714	12,791,931	[illegible]
1880	50,155,783	11,597,412	[illegible]
1870	38,558,371	7,115,050	[illegible]
1860	31,443,321	8,251,445	[illegible]
1850	23,191,876	6,122,423	[illegible]
1840	17,069,453	4,203,433	[illegible]
1830	12,866,020	3,227,567	[illegible]
1820	9,638,453	2,398,572	[illegible]
1810	7,239,881	1,931,398	[illegible]
1800	5,308,483	1,379,269	[illegible]
1790	3,929,214		

Source *Population of Continental United States by* [illegible] *and States*, April 1, 1950, U S. Department of Commer[illegible] Census, Series PC-3, No 1, October 15 1950.

[a] The figure of 150,697,361 is from *Population Index*, [illegible] ary, 1951, p. 4, table I.

Table 23

Immigration and Emigration and Admissions and Departures of Other Persons
(In thousands)

Year	ADMISSIONS Total	Immigrants	Under 15 Years of Age	Others	DEPARTURES Total	Emigrant	Others	Excess of Admissions over Departures
1865		248	46 5					
1870		387	89 1					
1880		457	87 1					
1890		455	86 4					
1900		449	*Under 14* 54 6					
1910	1,198	1,042	120 5	156	380	202	178	818
1920	622	430	*Under 16* 81 9	192	428	288	140	194
1930	446	242	40 7	204	273	51	222	173
1935	180	35		145	189	39	150	−9
1940	209	71	9 6	138	166	21	145	43
1945	202	38	5 6	164	93	7	86	109

Sources *Historical Statistics of the United States,* Series B 304 330 B 331 336 350-352 for figures through 1930, for 1945 J Frederic Dewhurst, *America's Needs and Resources* (New York Twentieth Century Fund 1947) p 35 table 8

Table 24

The Labor Force of the United States

Year	Population 10 Years Old and Over (in thousands)	Per Cent of Population in Employment 10 Years Old and Over	Per Cent of Women 15 Years Old and Over in Employment
1860	22,429	47 0	
1870	29,123	44.4	
1880	36,761	47 3	
1890	47,413	49 2	16
1900	57,949	50 2	17
1910	71,580	52 2	20
1920	82,739	51 3	20
1930	98,723	49 5	21
1940	110,443	47 2	26 3
	Total over 14 years of age	Per Cent over 14 years of age	
1930	89,100	54 5	
1940	101,102	52 2	
1949	109,623	58 0	29 6

Sources *Historical Statistics of the United States*, p 63, *Statistical Abstract of the United States*, 1950 p 175

Table 25

UNEMPLOYMENT, WAGES, HOURS

Year	Average Hour Week, agrici	Average	Index of Money Wages Ag	Index of Money Wages, Nonagricul ture 1860–1890 Index	[illegible]
1850	69	72			300
1860	66	72 (1866)	53 (1866)	100	400
1870	63	71	52	162	500
1880	61 8	71	60	141	700
1890	59	70	64	158 9	900
1900	57 3	69	66		1600
1910	54 6	68	97		600
1920	50.4	63	242	123 5	600
1930	49 3	59	167	94.1	3800
1940	44 0	52 3	126	114 5	500
1945	43.4	52	350	293.4	142

Sources *Historical Statistics of the United States*, pp 67, 70, Dewhurst, *op cit*, appendix 3

Table 26

INTERNAL MIGRATION OF NATIVE POPULATION
(In Percentages of Total Population)

Year	Born in State other than State of Residence	Born East of Mississippi, but living West	Born in South, living in North	Born in North, living in South
1870	23.2	8.2	8.3	1.5
1880	22.1	9.4	6.7	1.9
1890	20.8	10.1	5.8	2.0
1900	20.6	8.8	5.4	2.7
1910	21.6	8.9	5.3	3.3
1920	22.1	7.7	6.6	3.4
1930	23.4	6.6	8.6	3.2
1940	22.4	5.5	8.2	3.2

Source *Historical Statistics of the United States*, p 30

Table 27

DISTRIBUTION OF POPULATION BY TYPE AND SIZE OF COMMUNITY, 1850–1950
(In Percentages)

Type and Size of Community	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950
Urban Communities	15.3	19.8	25.7	28.2	35.1	40.0	45.8	51.4	56.2	56.5	63.7
Population											
1,000,000 or more						8.5	9.2	9.6	12.3	12.1	
500,000–1,000,000						2.2	3.3	5.9	4.7	4.9	
250,000–500,000						3.8	4.3	4.3	6.5	5.9	
100,000–250,000 or 100,000 or more *	5.1	8.4	10.7	12.4	15.4	4.3	5.3	6.2	6.1	5.9	
50,000–100,000	1.2	1.4	1.9	1.9	3.2	3.6	4.5	5.0	5.3	5.6	
25,000–50,000	2.6	2.1	2.4	2.9	3.6	3.7	4.4	4.8	5.2	5.6	
10,000–25,000	2.4	2.8	4.4	4.4	5.5	5.7	6.0	6.6	7.4	7.6	
5,000–10,000	2.6	3.1	3.3	3.4	3.8	4.2	4.6	4.7	4.8	5.1	
2,500–5,000	1.4	1.9	2.8	3.2	3.6	4.1	4.2	4.3	3.8	3.8	
Rural Communities	84.7	80.2	74.3	71.8	64.9	70.0	54.2	48.6	43.8	43.5	36.3

* *1850–1890* 100,000 or more 1900–1950 100,000–250,000

Table 28

WORK STOPPAGES RESULTING FROM LABOR MANAGEMENT DISPUTES, 1881–1950

Year	Number of Stoppages	Workers Involved (thousands)	Man Days Idle During Year	
			Number (thousands)	Per Cent of Estimated Working Time
1881	477	130		
1890	1,897	373		
1900	1,839	568		
1905	2,186	302		
1914	1,204			
1920	3,411	1,460		
1930	637	183	3,320	0 05
1940	2,508	577	6,700	0 10
1945	4,750	3,470	38,000	0 47
1946	4,985	4,600	116,000	1.43
1947	3,693	2,170	34,600	.41
1948	3,419	1,960	34,100	37
1949	3 606	3,030	50,500	59
1950	4 843	2,410	38,800	
1935–39 average	2 862	1,130	16 900	27

Sources 1881–1945 *Historical Statistics*, Series D224 238, cols. 224 225, 27, 228 1946-1949 and 1935 1939 average *Monthly Labor Review*, July 1950, p. 187 1950 *The New York Times*, April 18, 1951

Table 29

AMERICAN BUSINESS LEADERS BY FATHER'S OCCUPATION AND BY FAMILY STATUS, 1900–1910

Occupation of Father	Business Leaders (per cent of)	Political Leaders (per cent of)
Businessman	56	33
Professional	23	18
Farmer	12	38
Public official	7	9
Worker	2	2
Total cases (= 100 per cent)	167	167
Family Status		
Upper	50	36
Middle	45	50
Lower	5	14
Total cases (= 100 per cent)	179	180

William Miller "American Historians and the Business Elite," *The Journal of Economic History*, vol IX, Nov 1949

Table 30

RELATIVE IMPORTANCE OF CORPORATIONS IN EACH BRANCH OF INDUSTRY, 1929

Industrial Branch	Per Cent of Income Coming from Corporations in Each Branch
Agriculture	6
Construction	33
Miscellaneous	33
Service professional, amusements, hotels	33
Finance Banking, insurance, real estate, holding companies, stock and bond brokers, etc	56
Trade	63
Transportation and other public utilities	86
Manufacturing	92
Mining and quarrying	96

Big Business Its Growth and Its Place (New York Twentieth Century Fund, 1937), p 17

Table 31

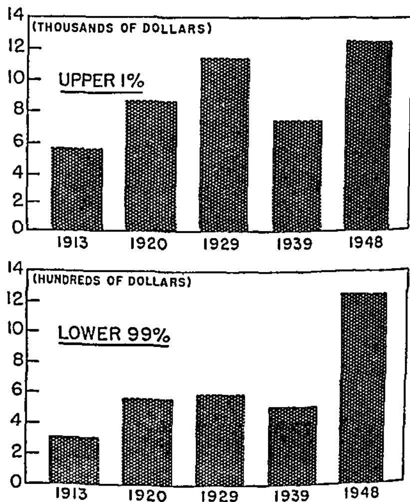
SHARES OF TOTAL INCOME PAYMENTS (CURRENT PRICES) RECEIVED BY UPPER AND LOWER INCOME GROUPS, AFTER FEDERAL INCOME TAXES (In Percentages)

Year	Income Groups of Total Population			
	Upper 1%	Upper 5%	Lower 95%	Total
1919–1938	12 8	25.4	74 6	100 0
1929	19 1	34 0	66 0	100 0
1946	7 7	18 0	82.0	100 0

Source Kuznets, *op cit*, p. 13 and unpublished ms.

Chart 1

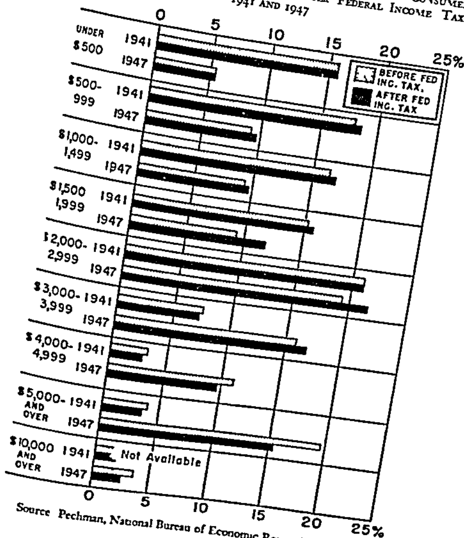
CHANGES IN PER CAPITA INCOME, BY INCOME GROUPS, 1913 1948



Source Kuznets, National Bureau of Economic Research

Chart 2

PERCENTAGE DISTRIBUTION OF FAMILY UNITS RANKED BY CONSUMER MONEY INCOME LEVELS, BEFORE AND AFTER FEDERAL INCOME TAX, 1941 AND 1947



Source Pechman, National Bureau of Economic Research.

Table 32

AGGREGATE INCOME PAYMENTS BY TYPE
(Percentage Distribution)

Average of	Employee Compensation	Entrepreneurial Net Income	Property Income
1870–1880	50.0	26 4	23 6
1900–1910	47.1	28.8	24 2
1919–1928	61 7	19 5	18.8
1929–1938	64 9	15 9	19 2

Sources 1870–1910 based on W. I. King, *Wealth and Income of the People of the United States* (New York, 1919). 1919–1938 based on National Bureau of Economic Research estimates in Kuznets, *op. cit.*, p. 50

Table 33

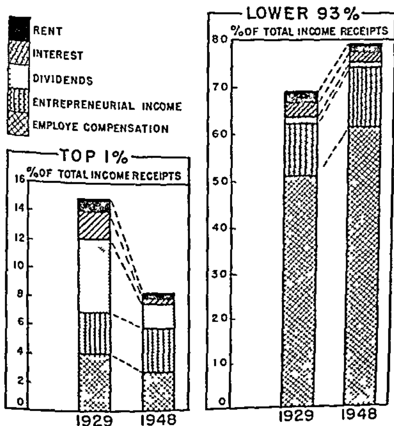
CHARACTERISTICS OF FAMILY INCOME BY REGION AND SIZE OF COMMUNITIES, 1935–1936
(Median Income in Dollars)

Size of [illegible]	New [illegible]	North [illegible]	South	Moun-tains and Plains	Pacific
[illegible]	[illegible]	[illegible]	...	...	...
[illegible]	1,361	1,646	1,484	1,607	1,544
Middle size cities	1,326	1,370	1,271	1,571	1,392
Small cities	1,419	1,293	1,094	1,493	1,545
Rural nonfarms	1,457	1,163	1,159	1,341	1,433
Farms	1,184	1,236	780	860	1,349

Source Kuznets, *op cit.*, p. 27.

Chart 3

INCOME SHARES OF TOP 1% AND LOWER 93%, DISTRIBUTED BY TYPE OF INCOME, 1929 AND 1948



Source Kuznets, American Economic Association.

Table 32

AGGREGATE INCOME PAYMENTS BY TYPE
(Percentage Distribution)

Average of	Employee Compensation	Entrepreneurial Net Income	Property Income
1870–1880	50 0	26 4	23 6
1900–1910	47 1	28 8	24 2
1919–1928	61 7	19 5	18 8
1929–1938	64 9	15 9	19 2

Sources 1870–1910 based on W I King, *Wealth and Income of the People of the United States* (New York, 1919) 1919–1938 based on National Bureau of Economic Research estimates in Kuznets, *op cit.*, p 50

Table 33

CHARACTERISTICS OF FAMILY INCOME BY REGION AND SIZE OF COMMUNITIES, 1935–1936
(Median Income in Dollars)

Size of Community	New England	North Central	South	Mountains and Plains	Pacific
Metropolises	.	1,730	.	. .	...
Large cities	1,361	1,646	1,484	1,607	1,544
Middle size cities	1,326	1,370	1,271	1,571	1,392
Small cities	1,419	1,293	1,094	1,493	1,545
Rural nonfarms	1,457	1,163	1,159	1,341	1,433
Farms	1,184	1,236	780	860	1,349

Source Kuznets, *op cit.*, p 27

Table 35

Reference Dates and Durations of Business Cycles in the United States
(Quarterly Reference Dates)

Peak	Through	Peak	Through
	4Q 1854	4Q 1902	3Q 1904
2Q 1857	4Q 1858	2Q 1907	2Q 1908
3Q 1860	3Q 1861	1Q 1910	4Q 1911
1Q 1865	1Q 1868	1Q 1913	4Q 1914
2Q 1869	4Q 1870	3Q 1918	2Q 1919
3Q 1873	1Q 1879	1Q 1920	3Q 1921
1Q 1882	2Q 1885	2Q 1923	3Q 1924
2Q 1887	1Q 1888	3Q 1926	4Q 1927
3Q 1890	2Q 1891	2Q 1929	2Q 1933
1Q 1893	2Q 1894	2Q 1937	2Q 1938
4Q 1895	2Q 1897	1Q 1945	4Q 1945
3Q 1899	4Q *1900*	4Q *1948*	4Q 1949

Source Arthur F Burns and Wesley C. Mitchell *Measuring Business Cycles* (New York National Bureau of Economic Research 1946) p 78 table 16

Table 36

GROWTH OF LIFE INSURANCE IN AMERICA
(In Millions of Dollars)

Year	Number of Companies	Ordinary Life	Industrial	Group
1860	17	163 7		
1870	71	2,023 8		
1880	44	1,559 3	19 6	
1890	50	3,620 7	428 8	
1900	76	7,093 2	1,468 0	
1910	214	13,227 2	3,177 0	
1920	272	33 454 6	7,189 8	1,636 8
1930	352	79,774 8	18,287 4	9,886 0
1940	305	81,069 2	21,343 6	15,381 5
1948	380	135,669 0	31,699 0	39 210 0

Source Shepard B Clough, *A Century of American Life Insurance* (New York Columbia University Press, 1946), pp 370-375

Table 37

PERCENTAGE OF WHITE, NON-RELIEF FAMILIES PAYING LIFE INSURANCE PREMIUMS IN 1935-1936

Rural areas	58
Cities, 2,500 to 25,000	81
Cities, 25,000 to 100,000	86
Cities, 100,000 to 1,500,000	88
New York, Chicago, Philadelphia, and Detroit	90

Table 38

FEDERAL GOVERNMENT FINANCES (UNITED STATES TREASURY)
RECEIPTS IN MILLIONS OF DOLLARS

Year	Total	Customs Duties	Income & Profit Tax	Other Internal Revenue	Other Receipts	Gross Surplus or Deficit, Including Debt Retirement
1870	411.2	194.5	37.7	147.1	31.8	+101.6
1880	333.5	186.5		124.0	22.9	+65.8
1890	403.0	229.6		142.6	30.8	+85.0
1900	567.2	233.1		295.3	38.7	+46.3
1910	675.5	333.6	20.9	268.9	51.8	−18.1
1920	6,694.5	322.9	3,944.9	1,460.0	966.6	+212.4
1930	4,177.9	587.0	2,410.9	628.3	551.6	+183.7
1940	5,387.1	348.5	2,125.3	2,640.0	273.1	−3,740.2
1945	46,456.5	354.7	35,173.0	7,445.9	3,482.7	−53,948.0
1950	41,310.6	422.6	28,262.6	11,185.9	1,439.3	−3,122.1

EXPENDITURES IN MILLIONS OF DOLLARS

Year	Total	War Department	Navy Department	Interest on Public Debt	All Other	
					Total	Civil & Miscellaneous
1870	309.6	57.6	21.7	129.2	100.9	64.3
1880	267.6	38.1	13.5	95.7	120.2	54.4
1890	318.0	44.5	22.0	36.1.0	215.3	94.8
1900	520.8	134.7	55.9	40.1	289.9	131.6
1910	693.6	189.8	123.1	21.3	359.2	171.5
1920	6,403.3	1,621.9	736.0	1,020.2	3,025.1	2,777.1
1930	3,440.2	464.8	374.1	659.3	1,941.9	1,597.5
1940	8,998.1	907.1	891.4	1,040.9	6,158.6	5,650.7
1945	100,404.5	50,490.1	30,047.1	3,616.6	16,250.6	15,445.1
1950	40,166.8	9,310.1	4,129.5	5,749.9	20,977.2	

Table 39

FEDERAL PUBLIC DEBT
(In Thousands of Dollars)

1860	64,844	1910	1,146,940
1870	2,436,453	1920	24,299,321
1880	2,090,909	1930	16,185,310
1890	1,122,397	1940	42,967,531
1900	1,263,417	1950	256,708,000

Table 40

STATE AND LOCAL GOVERNMENT FINANCES
(In Millions of Dollars)

	1890	1902	1913	1932	1942
General Revenue					
Property taxes	443	706	1,083	4,682	4,544
Other taxes	58	154	269	1,677	5,068
Aid from Federal government		7	9	238	854
Miscellaneous	61	101	241	820	930
Total	562	968	1,602	7,416	11,396
General Expenditures					
Operations total	478	782	1,165	...	7,216
General control	82	164	211	...	667
Public safety	43	97	181	..	757
Highways	84	117	157	...	807
Sanitation and health	3	34	69	...	306
Hospitals and correction	52	106	158	...	1,802
Schools	145	236	331	...	2,365
Libraries	...	...	10	...	41
Recreation	3	14	24	...	97
Other	67	14	24	...	374
All other	82	234	586	...	2,818
Total	560	1,016	1,751	...	10,034

Table 41

RELATIVE IMPORTANCE OF VARIOUS FEDERAL TAXES IN 1930

Tax	Percentage of Total Receipts Provided by Tax
Corporation	35
Personal income	32
Customs duties	16
Tobacco	12

See Carl Shoup, Roy Blough, and Mabel Newcomer, *Facing the Tax Problem* (New York Twentieth Century Fund, 1937)

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INDEX